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ORIGINAL LECTURES.

ON THE OPERATION FOR STRANGULATED HERNIA.

BY PROFESSOR VERNEUIL.

A Clinical Lecture delivered at the Hopital de la Pitié, July 6, 1885.

(Reported by W. W. SKINNER, M.D., EXTERNE DE HOPITAUX.)

I WISH to speak to you to-day, gentlemen, upon the appreciation of the opportunity for operating in cases of strangulated hernia. The patient you have just seen in one of the wards, and who has recently undergone the operation of kelotomy, furnishes me a fitting occasion to present to you this subject.

If the strangulation of the hernia be sometimes difficult to diagnosticate, there are other occasions in which doubt is not permissible, and the presence of a constriction is most evident. Even in these cases the indications and contraindications of operation are often difficult to seize. Nothing was more doubtful, formerly; but, thanks to the definite rules resulting from the experience of surgeons of our epoch, nothing is clearer to-day.

No longer than twenty years ago, before the indications for the operation were clearly enunciated, and before such treatment of the operation-wound was practised as is done at present, the mortality after operations was considerable. When I was surgeon at the Hôtel-Dieu I was frightened at the great proportion of the resulting deaths. One-half of the cases were fatal.

The principal causes of this fearful mortality may be reduced to three: 1st, the inordinate and ill-timed employment of *taxis;* 2d, *absurd therapeutics;* and 3d, *tardiness* in operating, because every lesion of the peritoneum is fraught with more or less danger; and, when this lesion is made on an inflamed or damaged peritoneum, the results are far more fatal.

In principle, I am not opposed to taxis, properly performed at the proper time; but taxis, practised beyond all reason, is an injurious manœuvre. On the contrary, it is very frequently efficacious when performed at a seasonable time. It is also extremely essential that taxis be *intelligently* performed. Some surgeons imagine that, by pushing very hard upon the hernia, they can cause its reduction. That, however, is a most detestable practice, and the dangers to which the patient is thereby exposed are formidable. Among these dangers may be named the rupture of the intestines, and the reduction of the hernia *en masse*. If taxis, exercised with moderate force, does not succeed, that method of reduction should be abandoned.

Secondly, an absurd treatment is often the cause of want of success in the subsequent operation. The patient is frequently made to swallow warm infusions, in the hope of causing the hernia to disappear. He is repeatedly purged, or aromatic frictions are prescribed, or he is subjected to enemata of tobacco, and other ineffectual means, which cost the patient loss of time and strength.

Finally, after having vainly tried this medical treatment, the services of the surgeon are at last requested, the patient being *in extremis*. But, notwithstanding the best directed efforts of the most skilled operators, the results in these conditions are too often fatal. His attempts are struck with inutility. In some cases, however, a rare success crowns the operation. If the surgeon does not deem it advisable to operate, he should prescribe opium, belladonna, and ice. Patients have been put in great danger by operations performed inopportunely.

Why, therefore, so much delay? It is easy to understand that in former times, when the operation was followed by death in fifty per cent. of the cases, there was much reason for hesitation before exposing the sufferer to a new danger, but since that time kelotomy has become a benign operation. It has even become an elective process. It goes without saying that the operation should be performed under the best conditions, according to the rules of modern surgeons and the principles of antisepsis. I would prefer a puncture of the bladder, or an internal urethrotomy, to a catheterism badly done. So, kelotomy, if done unskilfully, and without proper precaution, is an exceedingly dangerous operation.

The patient in our ward has carried a left inguinal hernia during eighteen years. It was an antero-epiplocele; that is to say, a tumor formed by a loop of intestine and a portion of the greater omentum protruding outside of the abdominal cavity. It is necessary that you should know that the presence of the omentum is an advantage in a hernia. It prevents too great a pressure upon the intestine by interposing its mass between this viscus and the hernial sac, and thus permits greater mobility of the engaged intestine. On the other hand, the presence of the epiploon is an obstacle to the easy reduction of the hernia; and in this case it is of the highest importance that the surgeon should be endowed with the *doigt chirurgical*, in order to be able to decide by the touch in which part of the tumor is the intestine, so that taxis may be intelligently and usefully applied.

In the present case taxis was unsuccessfully tried, and it became necessary to open the sac; after which the stricture was divided, and the intestine and walls of the sac washed with antiseptic solutions. The loop of intestine was then returned to the abdominal cavity, while the omentum was excised, and the bleeding vessels tied with carbolized catgut.

A question naturally arises here concerning the surgeon's conduct in cases of antero-epiplocele, which he has decided to operate. Shall the portion of omentum in the hernia be returned with the intestine, or shall it be resected? Permit me to lay before you the rules which guide me in such circumstances. If the strangu-

lation has existed for a few hours only, twelve hours at the utmost, I reduce the omentum as well as the intestine, especially if the protruding part be in a fair state, yellow, uncongested, and, above all, if it be small; otherwise I never reduce it, but tie the constricted part and resect. If the pedicle is small, tie it in mass with one ligature; if it is large and thick, divide the pedicle in several parts by as many ligatures. The material of which these ligatures should be composed is not indifferent, and, although I do not employ catgut very much, yet it is here necessary, as it is absorbed after being left in the abdominal cavity.

What is to be done with the sac? If its extirpation is not too difficult it may be attempted, the freshened surfaces being brought together and securely sutured. Further, it has been said that this method prevents the reproduction of the hernia in the same place. But too much has been spoken and written about the radical cure of hernia, and operations designed for this purpose have most often failed. My treatment of the incision is very simple; I have always succeeded well in leaving the wound open, but dressed very carefully, with every attention paid to antisepsis. I place upon the wound a piece of collodionized goldbeater's skin, under which the serosity escapes. Over this are laid several thicknesses of gauze, containing powdered iodoform, or else dipped in a solution of carbolic acid. A light impervious tissue, and a bandage well applied, complete the dressing.

The treatment of hernia may be thus announced *en résumé*. Attempts at reduction by taxis during the first twenty-four hours after strangulation. Warm baths and chloroform are useful adjuvants. Later than this, the bistoury. The operation should be performed, and the after-treatment conducted according to the best antiseptic principles. If there is a suspicion of gangrene of the intestine, leave it outside of the abdominal cavity; but, when it is in a good state, replace it. Reunite the serous walls of the sac, and upon the open wound place a flat dressing, similar to the one I have described.

One word, gentlemen, concerning a case of hernial abscess, before operating upon it. The patient is a student of medicine, who presents an acute abscess near the margin of the anus on the left side. The abscess has already burst several days ago; but pain, redness, and swelling still persist, and the healing is no further advanced than when the pus was first discharged. When you have an acute abscess in this region, let me advise you to perform immediately the operation for *fistula in ano*. Sometimes, it is true, ordinary dressings and a treatment less active suffice; but, generally, you will be obliged to have recourse to the above-mentioned operation, which should be performed early, as it is useless to let your patient suffer for weeks, and finally be forced to undergo the radical treatment after all.

[Professor Verneuil then caused the patient to be chloroformed. Anæsthesia being complete, the nates of the patient were drawn to the edge of the table, and he was held by aids in the position for lithotomy. The Professor then passed a grooved director into the opening at the summit of the abscess, pierced the rectum, and brought the end of the instrument out at the anus. The tissues lying upon the director were then divided by Paquelin's thermo-cautery, and a carbolized dressing applied.]

ORIGINAL ARTICLES.

THE KOCH COMMA-BACILLUS AND ITS RELATION TO ASIATIC CHOLERA.

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ALTHOUGH many articles have appeared within the last few months, in the different American medical journals, on the subject of cholera, there are some important points with regard to the comma-bacillus and its relation to the disease that have not been clearly brought out, and the present status of the cholera bacillus has not been defined in any of the recent papers on this subject. During the last few months the writer has given considerable time and attention to the cultivation and study of three of the comma-bacilli, and this together with the facts mentioned above have been considered a sufficient excuse for the presentation of the present article.

The interest aroused in this subject among medical men by the announcement of Koch, and the outbreak of the disease in Europe attracted many investigators to the study of the cholera bacillus, and many contributions have been made to our knowledge of the etiology of the disease. But the results reached by different observers on the same questions have in many cases been directly contradictory to each other on every important point, so that much confusion has resulted.

It is necessary, in the first place, to understand clearly Koch's conclusions as to the comma-bacillus described by him.

These are briefly as follows:

1. Peculiar microörganisms are found in the mucous flakes and rice-water discharges of all persons suffering from Asiatic cholera, which from their peculiar form Koch calls "comma-bacilli."

2. These bacilli are about ½ or at most ⅔ the length of the well-known tubercle bacillus, and are of about the same thickness. They are very active in their movements, are always more or less curved, and vary in length according to the state of their growth. They occur singly or in pairs, and sometimes form longer or shorter wavy lines composed of many individuals.

3. These comma-bacilli are found post mortem almost as pure cultures in the lower part of the ileum, to the exclusion of other microörganisms. They also occur in the mucous membrane of the ileum, especially in the vicinity of the lymph glands and lymph follicles.

4. They bear a constant relation to the course and severity of the disease in each case, and disappear with the cessation of the acute processes.

5. In typical and rapid cases the mucous membrane of the lower part of the ileum exhibits characteristic alterations, *i. e.* loosening and detachment of the epithelium, and swelling and congestion of the bloodvessels, often accompanied by extravasation of blood into the tissue. It is probable that these lesions are caused by the penetration, growth, and multiplication of the comma-bacilli in these tissues, and that the morbid processes constituting the disease are brought about by the production by these germs of a

special chemical poison, and its absorption by the system.

6. No microörganisms are found in the blood or other tissues.

7. These germs grow well in ordinary neutral and slightly alkaline culture media at the temperature of the room, and show certain peculiarities of growth in different culture media, by which they can with certainty be distinguished from all other germs.

8. The comma-bacilli are killed by acids, by drying, and by various antiseptics. They also soon disappear from a fluid which contains putrefactive microörganisms.

9. Because of their constant occurrence in the intestines of cholera patients, their absence under all other conditions, and the ease with which their presence can be determined, by the peculiar manner of growth and development of the colonies in different culture media, together with certain other characteristics, Koch claims for these comma-bacilli great *diagnostic* value, and an essential *causal* relation to Asiatic cholera.

It is necessary that the morphological and biological peculiarities of this germ should be carefully studied, since it is largely upon these grounds that the assumption rests of the causal relation of the germ to the disease. Of those peculiarities especially worthy of note, the following are the most characteristic. The comma-bacilli are less straight than other bacilli, and are a little curved, similar to a comma. The curving may extend so far that the rod assumes almost the form of a half circle. In pure cultures the rods sometimes present an **S**-form figure or the form of longer or shorter wavy lines. The **S**-forms are made up of two individuals, the lines of a large number of bacilli. They are aërobic, requiring the presence of air for their development.

Their growth in nutrient gelatine[1] is peculiarly characteristic. In this the comma-bacilli form colorless colonies, which are at first circumscribed and appear as if formed of strongly refracting bits of broken glass. They liquefy the gelatine. From the peculiar appearances of the colonies in different culture media, they can with certainty be distinguished from all other germs, and can be easily isolated.

In the report of the German Cholera Commission from India, Koch says "in the contents of the intestines of a large number of persons dead of cholera and in the stools of many others sick with the disease, these bacilli have been found in every case. In the intestines of many other persons suffering from or dead of diarrhœa, dysentery, etc., which have been examined, they have never been found, nor do they occur in the stools of healthy persons or those caring for cholera patients or under any other condition. These observations are entirely confirmatory of many similar ones made in Egypt, and from them it is concluded that this comma-bacillus is quite characteristic of and peculiar to cholera."

"That this is, in fact, the case, also, other circumstances go to prove in a most unmistakable manner. First of all, stands the relation of the bacilli to the progress of the disease. They are only found in that organ which is the seat of the disease; namely, the intestine. In the vomited matters only twice have they been detected, and in both these cases the appearances and the alkaline reaction of the vomited matters showed that the bacteria with the contents of the intestines had passed into the stomach. In the intestines they deposit themselves in the following manner: Only few cholera bacilli are found in the first evacuations from the intestines, while they still have a feculent character; but in the watery odorless dejections that follow, the bacilli are present in larger numbers, while at the same time all other bacteria almost entirely disappear, so that in this stage of the disease nearly pure cultures of the comma-bacilli are found in the intestines. As soon as the dejections become again feculent in character, the cholera germs entirely disappear, and after the disappearance of the disease are not to be found at all. The comma-bacilli do not appear in the stomach. The conditions found in the intestine post mortem depend upon the stage of the disease at which death occurs. In the freshest cases in which the intestines present a diffused bright-red color the mucous membrane is still free from hemorrhages, and the contents of the intestines consist of a whitish odorless fluid. In this, almost pure cultures of the cholera germ are found in enormous numbers. The extent of their diffusion corresponds very closely to the intensity and extent of the inflammation of the intestinal mucous membrane. In the upper part of the small intestine there are but few, and they increase in number as the lower part is reached. When death occurs later in the course of the disease, lesions of a significant character are found. The mucous membrane of the small intestines is of a dark-red color, and in its lower portion are found extensive extravasations of blood, and often the superficial layer is necrosed. The contents of the intestine are more or less colored with blood and of putrid and stinking character, owing to the reappearance of bacteria of putrefaction. In this stage the comma-bacilli always diminish greatly in number, but they are found in moderately large quantities in the follicles of Lieberkühn and in their surroundings. This condition, namely, the presence of this peculiar bacteria in the walls of the intestines, was first observed in the Egyptian cholera cases. The comma-bacilli are only completely wanting in the intestines in those cases when death occurs from the supervention of some other disease after the cholera affection has entirely disappeared."

The cholera bacilli conduct themselves as all other pathogenic organisms. They are present exclusively in their own specific disease, and their first appearance coincides with the commencement of the disease. They increase in numbers in proportion to the development in the disease processes and disappear again with their decline. Their situation corresponds to the extent of the lesions found post-mortem, and their numbers bear so significant a relation to the intensity of the affection, that the destructive lesions of the intestinal mucous membrane are through this explained.

[1] Nutrient gelatine is the culture medium most generally useful. It is composed essentially of beef bouillon to which from 1 to 2 per cent. peptone is added, and sufficient gelatine (5 to 10 per cent.) to make it solid.

In order to demonstrate the causal relation of the germ to the disease, it is further exceedingly desirable that cholera should be produced artificially in some animals, by the introduction of pure cultures of the bacilli into the intestinal canal. This has been done, but the results have not been altogether satisfactory. The experiments will be given more in detail later in the course of this paper.

There are other peculiarities of this germ which are in harmony with what is known of the etiology of cholera, and serve to strengthen the conclusion that these bacilli are the cause of cholera. Especially worthy of note is the observation that the bacilli are found to have increased in enormous numbers on the clothing of cholera patients which has been soiled by the dejecta, and has been kept in a moist condition for twenty-four hours. This observation affords an explanation for the well-known fact that the clothing from cholera patients is so often the source of infection.

Another important peculiarity is, that the germs are found to be quickly killed by drying. Ordinarily, remaining three hours in a dried condition is sufficient to destroy completely all life. Further, their growth only occurs in neutral or alkaline media. They are killed by acids in weak solution, and the presence of the smallest quantity will entirely prevent their development. They are destroyed in the normal stomach, and are not found either in the stomach or intestines of animals fed upon material containing cholera bacilli. This last peculiarity together with their slight resistance to drying, affords an explanation of the daily observation, that infection so seldom follows direct contact with the sick. In order to produce cholera the bacilli must pass through the stomach unharmed and find their way into the intestines. It is probable that the bacilli can pass through the stomach unaffected if the stomach digestion is disordered. Certain facts observed in all cholera epidemics, and especially in India, seem to favor this view. It has been repeatedly noted, that very often those persons contract the disease who are suffering from indigestion or some disorder of the alimentary canal.

These comma-bacilli, moreover, are easily destroyed by putrefactive microörganisms, and if placed in fluids containing decomposing organic matter, have entirely disappeared after from twenty-four to forty-eight hours. Under the most favorable conditions they live but comparatively a short time in the human alimentary canal, and have, as a rule, entirely disappeared after six days from the commencement of the disease.

Since Koch's announcement, three important comma-bacilli have been described, all of which resemble so closely the Koch comma-bacillus in their morphological appearances, that they can only with difficulty be distinguished from it on these grounds alone.

Much confusion has arisen and is constantly arising from the want of sufficient recognition on the part of many observers, of the fact, that similarity in morphological appearances does not by any means prove the identity of two germs. To establish this, it is quite as essential that there should be a similarity in the growth and development of the colonies in different culture media, and also an identity in function. Owing to a neglect to recognize sufficiently this fact, much of the work of the English Cholera Commission has been rendered practically valueless.

The first of these three comma-bacilli was discovered by Finkler and Pryor, of Bonn, in the stools of a person suffering from simple or sporadic cholera. This bacillus they isolated and cultivated in different culture media, and stated that it was identical with the comma-bacillus described by Koch. Cultures of this microbe were finally sent by them to Koch, and in his reply to their claims, he held that their cultures were impure, and contained four distinct forms of bacteria. Two of these which are unimportant, are respectively known as the "figure bacillus of Finkler and Pryor," and the "green Finkler and Pryor." The third one, known as the "comma-bacillus of Finkler and Pryor," resembles very closely the Koch comma-bacillus in its morphological appearances, but is a little thicker and larger, and can be readily distinguished from it by the appearance of the colonies in different culture media.

Shortly preceding the communication from Finkler and Pryor, came the announcement almost simultaneously from Prof. Miller, of Berlin, and Lewis, of London, of the discovery of a comma-bacillus on the teeth, and in the mucus of the normal human mouth. It has been impossible to isolate this germ[1] from the fact that it will not grow in any of the ordinary culture media. In February, 1885, Prof. Miller, of Berlin, isolated a comma-bacillus from the mouths of two persons who were suffering from dental caries, but this, which was at first supposed to be the germ ordinarily found there, is probably another form and may be identical with the Finkler and Pryor comma.

The third comma-bacillus was described by Dr. Deneke, in January, 1885. This was found by him in stale cheese, and perhaps resembles more closely the Koch comma than either the Finkler and Pryor or the mouth comma. Still, Deneke concludes that it is quite distinct from it.

The greatest interest naturally centres in the Finkler and Pryor and the mouth commas, since, as these are both found in the alimentary canal under other conditions than with the existence of cholera, if the identity of either of them with the Koch comma-bacillus can be proven, Koch's conclusions will be completely invalidated. This has not been done, but, on the other hand, they have been proven to be very different from the latter.

As to the points of difference between the Finkler and Pryor and the Koch comma-bacilli, it must be admitted that in preparations mounted in Canada balsam, the similarity between the two germs is very great, but in preparations freshly stained and mounted in water, with the same magnifying power, the Finkler and Pryor comma appears somewhat larger and plumper. The differences shown in the growth and development of the colonies in different culture media are very great. Under the same con-

[1] Klein claims to have isolated the comma-bacillus of the mouth by using a slightly acid gelatine. Other observers have not been so successful, and his statement remains, as yet, unconfirmed.

ditions of life, *i. e.*, the same temperature and culture medium, the growth of the Finkler and Pryor comma is much more rapid than that of the Koch comma. In gelatine plate cultures[1] the single colonies of the Finkler and Pryor comma, especially during the first twenty-four hours of its growth, have a yellow-brown color, are always of a regular, round, sharp-bordered form, and present with the low and middle magnifying power, a fine granulated appearance. They rapidly liquefy the gelatine, so that after twenty-four or thirty-six hours the colonies have sunk deep into the layer of gelatine on the culture plate, and have surrounded themselves with a wide zone of the fluid medium. They produce in their growth a very foul and penetrating odor. After thirty-six or forty-eight hours, the colonies lose their circumscribed sharp bordered character and assume an irregular bushy form. So great is the tendency to liquefy the gelatine in wide areas around the individual colonies, that after the second day gelatine plate cultures, which contain but few colonies, have become entirely fluid.

Quite otherwise is it with the cholera comma-bacillus, the colonies of which, under completely the same conditions of existence, grow much more slowly and are colorless. Liquefaction of the gelatine in the neighborhood of the colonies proceeds only slowly, so that they sink deeply into the gelatine and form a deep narrow funnel-shaped depression. Each colony occupies the apex of a funnel and produces a distinct white point there. Even to the naked eye this appearance is very characteristic. The microscopical appearances of the colonies is especially characterized by an uneven and jagged border, and the entire colony appears as if made up of glancing pieces of finely broken glass. There is no development of any odor even after five or six days, or, at most, only a slightly aromatic odor.

Still more decided if possible are the differences in cultures in reagent tubes. These are well shown in these cuts, made from drawings[2] of cultures in the Carnegie Laboratory. The Finkler and Pryor, after two or three days, has rendered fluid the culture medium not only on the surface, but also throughout the entire length of the line of inoculation, and presents the form of a long slender pouch, or a deep narrow funnel. In cultures of the cholera bacillus prepared in a quite similar manner, the liquefaction of the gelatine is never present, at first, throughout the entire length of the line of inoculation, but appears only at the upper end, forming here a sharp bordered funnel or crater-shaped depression which apparently encloses an air bubble. The lower portion of the line of inoculation appears for some time as a fine white line. These points of difference in the appearance of colonies of the different germs in geletine tube and plate cultures are exceedingly characteristic and very constant, and almost all observers working independently have arrived at the same conclusions and agree that it is scarcely possible to confound these two comma-bacilli.

FIG. 1.

FIG. 2.

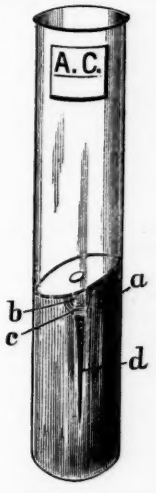


FIG. 1.—Test-tube culture of comma-bacillus of cholera Asiatica in nutrient gelatine. Culture twenty-four hours old.

a. Nutrient gelatine.

b. Commencing formation of air bubble.

c. Line of inoculation, along which the growth of the colonies is as yet scarcely perceptible.

FIG. 2.—Test tube culture of comma-bacillus of cholera Asiatica. Culture about forty-eight hours old.

a. Nutrient gelatine.

b. Air bubble.

c. Zone of liquefied gelatine.

d. Line of inoculation. Growth of germs appearing at upper end.

On potatoes the cholera germ does not grow at all at a temperature below 32° C. At the temperature of the body it forms a dark brown layer. On the other hand the comma-bacillus of cholera nostras, or Finkler and Pryor, grows rapidly at 18° C., forming a thick yellowish-gray layer.

The comma-bacillus of the mouth, as isolated by Prof. Miller, of Berlin, resembles very closely the Finkler and Pryor comma-bacillus, both in its mor-

[1] A word of explanation may be added as to the method of making plate cultures of microörganisms. It is done in the following manner: A test-tube about one-third full of carefully sterilized nutrient gelatine is heated slightly until the gelatine becomes liquid. This is then inoculated by means of a slender platinum wire, either from some other culture of the germs required or from any substance or liquid containing germs that it is desired to isolate and study. After inoculation the tube is thoroughly shaken to distribute the germs evenly through the fluid. This forms what is known as the first dilution. From this a second tube is inoculated in exactly the same manner, and forms the second dilution. Sometimes even a third is made. The contents of the tube containing the second or third dilution are then poured out upon a sterilized glass plate that has been rendered cold by placing over ice-water. On this the gelatine quickly solidifies in a thin layer. The microörganisms which have been mingled with the gelatine, and have been thus separated and isolated, are fixed wherever they may fall, and from each individual a colony develops. Of course, these colonies, each of which develops from a single germ, form absolutely pure cultures of that germ. In this way the development of the colonies of different germs may be studied under the low power of the microscope, and by the peculiarities shown by the different colonies in their growth, the germs can be isolated with little difficulty.

[2] I wish to acknowledge my indebtedness to Dr. Frank Grauer, of the Carnegie Laboratory, who very kindly made the drawings of the cultures for me.

phological appearances and its manner of growth in different culture media. Although its identity with the Finkler and Pryor has not been satisfactorily proven, yet their similarity is so great, and it can be

FIG. 3. FIG. 4.

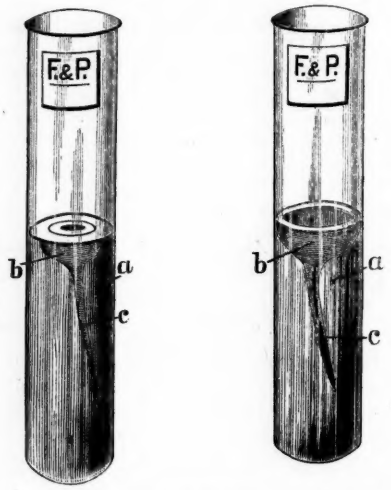


FIG. 3.—Test-tube culture of the comma-bacillus of cholera nostras, or Finkler and Pryor's culture, twenty-four hours old.

a. Nutrient gelatine.

b. Zone of cloudy liquefied gelatine, beginning to extend down along line of inoculation *c*.

FIG. 4.—Test-tube culture of comma-bacillus of cholera nostras. Culture forty-eight hours old.

a. Nutrient gelatine.

b. Zone of cloudy liquefied gelatine, that has extended to the sides of the tubes, and is extending along line of inoculation *c*.

distinguished so readily, from the Koch comma, by the characteristics shown in the growth and development of the colonies in different culture media, that it seems unnecessary to consider it more fully here.

As far as the writer's own experience is concerned in the cultivation of microörganisms, he has never found any kind of bacteria comma-shaped or otherwise, which could for a moment be mistaken in cultures for the Koch comma-bacillus, where the whole life history of the germ was taken into consideration.

Nicati and Rietsch, of Marseilles, succeeded in producing death in dogs with choleraic symptoms and lesions, after first ligating the common bile-duct and then injecting into the duodenum a small quantity of material from a pure culture of the Koch comma-bacillus. The same results were obtained in the case of guinea-pigs without previous ligation of the bile-ducts. When in place of the Koch comma-bacillus, the Finkler and Pryor was used by other observers, the results, in a large proportion of cases, were entirely negative. After death almost pure cultures of the Koch comma-bacillus were found in the contents of the intestinal canal. These experiments have been repeated and confirmed by Koch and others in Germany, but, on the other hand, certain English observers have absolutely denied the correctness of the results obtained, and claim that the effects of both the Koch and the Finkler and Pryor comma-bacilli are absolutely nil.

FIG. 5. FIG. 6.

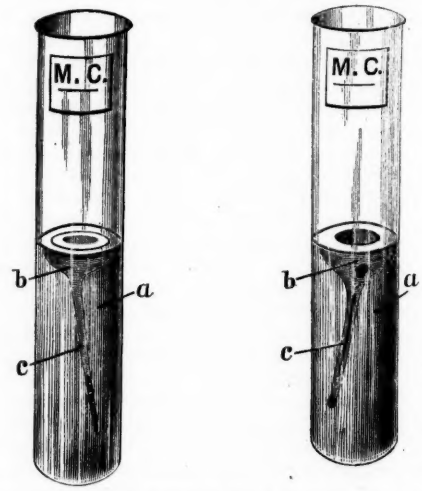


FIG. 5.—Test-tube culture of comma-bacillus isolated from mouth by Prof. Miller, of Berlin. Culture twenty-four hours old.

a. Nutrient gelatine.

b. Liquefied gelatine.

c. Line of inoculation.

FIG. 6.—Test-tube culture of the comma-bacillus of the mouth. Culture forty-eight hours old.

a. Nutrient gelatine.

b. Liquefied gelatine, extending along line of inoculation (*c*), in which colonies are developing.

At the second meeting of the Cholera Conference in Berlin in May, Koch reports the methods and results of his experiments as follows. The guinea-pigs first receive 5 ccm. of a 5 per cent. solution of soda, and 20 minutes later 10 ccm. of beef bouillon, containing the comma-bacilli, is injected into the stomach. Immediately after this, tincture of opium (1 ccm. to each 200 gramme weight of the animal) is injected into the peritoneal cavity. The animals are narcotized by this for from half an hour to an hour, then they recover again completely. The following day they seem to be sick, and die after from one to three days. The autopsy shows swelling of the small intestines, which, together with the stomach and cæcum, are filled with an alkaline, colorless, flaky fluid containing almost pure cultures of the comma-bacilli. Eighty-five experiments were made in this manner with the same result in each case.

Koch further added that from the 150 physicians who took the cholera courses during the autumn and winter, one had a mild attack of cholera and in his stools the comma-bacilli were found.

These experiments on guinea-pigs cannot by any means be received as constituting absolute proof of the causal relation of the comma-bacillus to cholera, even when taken in connection with all the other known facts, but may be regarded as affording additional confirmatory evidence.

Emmerich, of Munich, in Dec. 1884, described a short straight bacillus, which he believed was the cause of cholera. This bacillus he found in the blood and tissues of a number of persons either suffering from or dead of cholera, and he claimed to have produced death in animals with choleraic symptoms after administering fluids to them, which contained this germ. But the methods of his work were not reliable and his conclusions have not been accepted.

The next publication that especially deserves attention is the report of the English Cholera Commission, which was sent to India to investigate the etiology of cholera. From this report, a summary of which is given below, it will be seen that there is not a single important point in Koch's conclusions, with which they do not take issue, with the exception of the constant occurrence of this microörganism in cholera cases. However, they do not believe its presence is confined at all to this disease, but practically assert that it is a putrefactive germ, is not to be distinguished from other putrefactive microörganisms, either by its morphological appearances, its life, history, or the peculiar characteristics of its growth in different culture media, and, in a previous report, state that it occurs under various other conditions, such as simple diarrhœa, phthisical diarrhœa, etc.

It is especially necessary to note here that in the work of the English Cholera Commission almost entire reliance was placed on the microscopical examination, and that the culture tests were used but little, if at all, to determine the presence of the Koch comma-bacilli. Now it has been repeatedly shown that the microscopical examination is entirely unreliable, and that this germ cannot, with certainty, be differentiated from the Finkler and Pryor comma-bacillus and other forms of bacteria without the aid of the culture tests, so that their work is practically excluded at the very beginning. The conclusions of the Commission are as follows:

1. Koch's statements as to the constant occurrence of comma-bacilli in the rice water stools of cholera patients is correct: the comma-bacilli vary greatly in numbers in different stools and in different cases, in some being exceedingly scarce, in others numerous.

2. These comma-bacilli vary greatly in length, some being twice or three times as long as others, some well curved, as much as to form half a circle, others showing only just a slight bend. The name comma-bacillus is inappropriate; the organism is more correctly termed a vibrio.

3. The comma-bacilli occur in the mucous flakes of the rice-water stools as well as in those taken from the ileum of a person dead of cholera. The sooner after death the examination is made the fewer comma-bacilli are found in the mucous flakes. Even in typical fatal cases the mucous flakes taken from the ileum, and examined soon after death (from between fourteen minutes to an hour or an hour and a half), contain the comma-bacilli only very sparingly indeed, and not to the exclusion of other bacteria. Our investigations do not bear out Koch's statement as to the lower part of the ileum being, in acute typical cases of cholera, almost "a pure cultivation of comma-bacilli." In not one of the many post-mortem examinations of typical acute cases have we found such a state.

4. The mucous membrane of the ileum in typical rapidly fatal cases, if examined soon after death, does not contain in any part any trace of a comma-bacillus or any other bacteria, not even in the superficial loosened epithelium. If the post-mortem examination be sufficiently delayed, comma-bacilli and other bacteria may be found penetrating into the spaces of the mucous membrane. Koch's theory as to the comma-bacilli present in the mucous membrane secreting a chemical poison inducing the disease cannot, therefore, be correct.

5. Neither the blood nor any other tissue contains comma-bacilli or any other microörganisms of known character.

6. The behavior of the comma-bacilli in artificial media is not such as to justify their being considered as specific. They grow well in alkaline and neutral media, are not killed by acids, and their mode of growth in gelatine mixtures is not more peculiar than that of other putrefactive bacteria; they show marked differences when growing in different media, but not more so than the ordinary putrefactive bacteria when compared in their growth with one another. The *comma-bacillus of the mouth* shows the *same peculiar character* of growth in gelatine as Koch's comma-bacilli.

7. Koch overlooked the fact that "comma-bacilli" occur in other intestinal diseases in the mouths of healthy persons, and, as shown recently, even in some common articles of food (by Dr. Deneke, in stale cheese).

8. The experiments performed by Koch and others on animals do not, in the least, prove that the comma-bacilli are capable of producing cholera or any other disease. The results obtained by them are much more easily explained in an opposite manner.

9. There is direct evidence to show that water contaminated with choleraic evacuations, and containing of course the comma-bacilli when used for domestic purposes, including drinking, by a large number of persons, did not, in the case of the tanks near the Jelepara Lane, produce cholera.

10. The mucous flakes taken from the small intestine of a typical rapidly fatal case of cholera contain numerous mucous corpuscles filled with peculiar minute straight bacilli; in this state they are found when the examination is made very soon after death; soon, however, the mucous corpuscles swell up and disintegrate, and then their bacilli become free. The small bacilli are never mixed in the mucous flakes. They are one-third or one-fourth the length of the comma-bacilli and about half of their thickness. They are non-mobile; they grow well in agar-agar jelly, but show in their modes of growth no peculiarity by which they could be considered as specific. When grown on the free surface of the nourishing material they form spores.

11. These small bacilli are not present in the blood in the mucous membrane of the intestine, or in any other tissue.

12. Experiments made with these small bacilli on animals produced no result.

13. Since my return to London I have ascertained that the comma-bacilli of cholera show two distinct modes of division, one the known one of transverse division, and a second one of division in length. When growing in agar-agar jelly at the ordinary temperature of the room, after some days the bacilli swell up owing to the appearance in their protoplasm of one or more vacuoles; as these vacuoles increase, the comma-bacilli become gradually changed, first into the plano-convex, then into oblong biconvex, and ultimately into circular corpuscles. The longer the original comma-bacillus the larger the final circle. These circular organisms are mobile just as are the comma-bacilli; and by disintegration of the protoplasm at two opposite points two perfect more or less semicircular comma-bacilli are formed. Growing the comma-bacilli in agar-agar jelly kept at higher temperatures (30 to 40° C.), the comma-bacilli multiply by transverse division only; but transferring these to agar-agar jelly, and keeping at the ordinary temperature of the room, they again gradually change into circular organisms, which by division in the diameter of the circle form two new comma-bacilli.

From this report it will be seen, as was before stated, that there is not a single important point in Koch's deductions with which the English investigations do not take issue, with the exception of the constant presence of the comma-bacilli, in all cases of cholera, both intra vitem and post mortem.

Let us consider briefly each of the important points of these conclusions:

3. In the third article Klein states that the sooner after death the examination is made the fewer comma-bacilli are found in the mucous flakes present in the contents of the ileum, and in no case was anything approaching a pure culture found. The examination upon which this statement is made were simply microscopical in character, and Cheyne has shown (as all workers in bacteria should have known), that this method of examination is entirely unreliable, since in typical rapid cases where microscopical examination showed but few comma-bacilli, culture experiments proved that from 70 to 90 per cent. were the comma-bacilli.

4. In the fourth article Klein states that neither comma bacilli nor any other microörganisms are present in the mucous membrane of any part of the intestines soon after death, and that Koch's theory as to the comma-bacilli present in the mucous membrane secreting a chemical poison inducing the disease, cannot, therefore, be correct. Positive evidence is always more valuable than negative, and, as is well known, many microörganisms in tissues are difficult to stain. Koch is the great master of this art, and his statements on this point must be accepted.

6. In the sixth article Klein states, in substance, that the growth of these germs in culture media is not different from putrefactive germs in general, and that they are putrefactive microörganisms. All other competent observers, without exception, agree with Koch on this point that the growth of the comma-bacilli in both tube and plate cultures is very characteristic and very constant. Klein further states that the comma-bacilli of the mouth show the same characteristics in cultures as the Koch comma. This he afterwards admitted was not the case.

7. In the seventh article Klein states that Koch overlooked the fact that comma-bacilli occur in other intestinal diseases, in the mouth of healthy persons, and in certain articles of food. Here, as everywhere through the report, the comma-shaped form of the bacillus is assumed to be the distinguishing characteristic of the cholera germ. This is not by any means the case. That Koch did not know at that time of the existence of the comma-shaped bacilli to which Klein refers is true, but he did know of the existence of other comma-shaped bacilli, and refers incidentally to them in his report.

8. As to the experiments on animals with the Koch comma-bacillus, it is not claimed that these experiments, in producing cholera in animals, absolutely prove that the cholera-bacilli are the cause of cholera, but that they constitute strong confirmatory evidence in that direction.

9. The same may be said of the ninth article as was said of the fourth, namely, that he depended entirely upon morphological appearances, and did not resort to culture tests.

10. It is not necessary to refer to the small bacilli described by him, as no claim is put forward for them, and as they were regarded as putrefaction germs.

13. As to the transverse division described by Dr. Klein, as sometimes occurring in the cholera-bacilli, it is only to be said, that it has not been observed by any other investigator, and, under any conditions, it has no bearing upon the relation of the microörganism to the disease.

Dr. Van Ermengen, in the report of his researches upon the microbe of cholera, undertaken on behalf of the Belgian government, entirely confirms Koch's conclusions in every particular.

Mr. Watson Cheyne, in his admirable report on the cholera bacillus to the Scientific Grants Committee, differs from the conclusions of the English Commission on every disputed point, and completely confirms the conclusions of the German Commission.

In the *British Medical Journal*, of May 9th and 16th, Dr. Klein details the results of some further investigations on the cholera bacillus. He states (*British Medical Journal*, May 16th) that, in the cæcum of normal guinea-pigs, "the typical comma-bacilli of Koch may be found;" and gives (*British Medical Journal*, May 9th) the results and some experiments, to establish the opinion which he had previously advanced, namely, that the Koch comma-bacilli, merely found in the intestines of cholera patients, under the conditions favorable for their multiplication, bear no essential causal relation to the disease; that is to say, they are the result, and not the cause, of the disease. He says, "in a monkey, which had received a dose of castor oil the previous evening, the abdomen was opened under spray, the lower ileum was drawn out, one ligature tied just above the ileo-cæcal valve; another about 2–4 inches higher up; the larger vessels of the mesenteric border were avoided as much as possible; into this loop a hypodermic syringe, full of a saturated solution of

magnesium sulphate, was injected; the ileum was replaced; the wound was stitched up; a bandage was applied, and was covered with collodion. Careful antiseptic precautions were observed throughout. In this manner six monkeys were operated on. One of the animals was dying the same evening; one was dying after three days were over; the others were killed after forty-eight hours."

"No comma-bacilli were found in the contents of the ileum withdrawn before the ligation of the loop of intestines. In three of the animals killed after forty-eight hours the tied loop contained a brownish fluid with many mucous flakes. In the contents were found numerous comma-bacilli. In one case they were more numerous than in some typical acute cases of cholera. It is evident from this that the pathological state of the intestines produced the conditions favorable to the multiplication of the comma-bacilli; and that they are, therefore, the *result*, and not the *cause*, of the disease. I am unable to distinguish them from the cholera comma bacilli, and they appear to be identical with the latter."

As Watson Cheyne denies the presence of the Koch comma-bacilli in the cæcum of normal guinea-pigs, and the results of Klein's experiments seem too improbable to be accepted until further confirmed, especially as so few details are given, it seems probable that Dr. Klein has fallen into the same error as before, namely, of depending upon morphological appearances, instead of culture tests.

Finally, as to the inoculation experiments with the cholera bacilli of Dr. Ferrán, there seems to be not the slightest ground for giving them any credence. Granted, in the first place, that the Koch bacillus is the cause of cholera, even then there is nothing to be hoped for from protection by inoculation, for reasons too evident to call for remark. It seems altogether probable that the peculiar phases which Ferrán describes as occurring in the life of the comma-bacillus are due to impurities in his cultures, and that it is to these impurities that the effects of his inoculations are to be ascribed.

We have now considered most of the important points at stake in the controversy, and can draw our conclusions as to the present status of the Koch comma-bacilli. The recent discussion before the Medical and Surgical Society in London elicited no new facts, and it is not necessary to refer to it more fully. These conclusions, then, may be drawn:

1. That Koch's claims as to the discovery of a germ peculiar to cholera, which possesses certain morphological and biological characteristics, that differentiate it sharply from all other germs, have stood the test of investigation by many observers, and remain yet to be disproved.

2. It is acknowledged by all investigators, without exception, that the Koch comma-bacillus is always found in Asiatic cholera in greater or less numbers, and that it is absolutely diagnostic of cholera, whether it bears any etiological relation to the disease or not.

3. That, although it cannot be considered as absolutely proven that the Koch comma-bacillus is the cause of cholera; yet its constant presence in this disease, and its absence under all other conditions, its relation to the course and intensity of the disease processes, and its peculiar life history, constitute very strong presumptive evidence in this direction.

4. Whatever may be the ultimate conclusion of medical men on this question, that still the greatest honor is due to Dr. Koch for having placed at our disposal a method for the diagnosis of Asiatic cholera.

21 EAST TWENTY-FIRST ST., NEW YORK,
July 12, 1885.

A NEW BANDAGE FOR FIXATION OF THE HUMERUS AND SHOULDER-GIRDLE.

BY CHARLES W. DULLES, M.D.,

FELLOW OF THE COLLEGE OF PHYSICIANS AND OF THE ACADEMY OF SURGERY OF PHILADELPHIA; SURGEON TO THE OUTPATIENT DEPARTMENTS OF THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA, AND OF THE PRESBYTERIAN HOSPITAL, IN PHILADELPHIA.

IN the treatment of injuries about the shoulder-joint, such as luxation, contusion, fracture of the clavicle, or of the acromial end of the scapula, etc., I have often felt the need of some form of bandage, which, while as efficient as the Velpeau or Desault bandage, should be less cumbrous; and I have been led to try various modifications of these until I hit upon a way of bandaging which has been so satisfactory to me and to my patients that I wish to bring it to the notice of my professional brethren, and to obtain their judgment upon its merits.

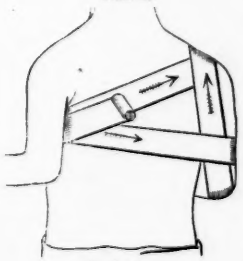
This form of bandage requires, for an adult, a roller about three and a half inches wide, and about ten or twelve yards long. It is applied as follows:

The arm of the injured side should be placed against the chest-wall, almost in the perpendicular line, but with the elbow a little in advance, and the forearm flexed at a right angle and laid across the lower part of the chest.

A large piece of lint, or a soft towel, or a piece of old muslin, should now be interposed between the arm and the body, going well up into the axilla, so as to prevent the excoriation which usually results from the apposition of two skin surfaces.

Then the surgeon, standing behind the patient, and a little toward the injured side, should apply the initial end of the roller to the axilla of the sound side, and carry the bandage diagonally across the

FIG. 1.

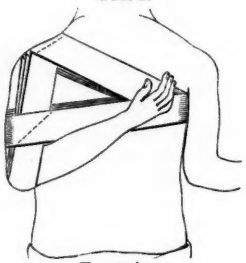


Back view.

back to the top of the shoulder of the injured side; then straight down the front of the arm to the point of the elbow; then under this to the back of the arm; then up behind the arm to the shoulder, where the

preceding turn crossed it At this point a firm pull should be made on the bandage, to draw the humerus well up against the glenoid cavity. In cases of fracture of the clavicle or scapula, this piece can easily be regulated so as, with the aid of a little manipulation, to place and keep the ends of the bone in position. Then the bandage is to be carried diagonally across the front of the chest to the axilla of the sound side; then through this axilla to the back; then horizontally across the back to the lower third of the arm of the injured side, and round this to the front of the arm; then across the front of the

FIG. 2.

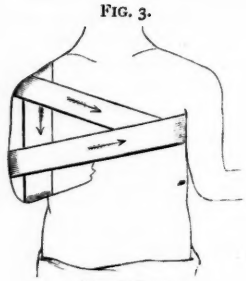


Front view.

chest to the axilla of the sound side, leaving the forearm out; then through this axilla to the back near the point of starting. The appearance of the bandage when one complete circuit has been made is shown (back and front views) in Figures 1 and 2. The bandage is completed by repetition of these turns till the roller is used up, advancing with each turn a little way up on the shoulder, and a little way up on the arm. If one roller does not suffice to give the support desired, of course a second must be added (Fig. 3).

After the bandage is in place a few large pins should be inserted at each crossing, and the hand and

FIG. 3.



Front view.

forearm should be supported by a sling. In addition to the pins, the bandage may be stitched so as to make a firm case; or a few strips of adhesive plaster may be applied along and across it in different places, which will give the greatest possible security. It is a good plan to attach a strip of adhesive plaster, an inch and a half wide, from just below the shoulder, over the outer side of the arm and round the point of the elbow, to about the middle of the forearm. This will prevent the bandage from slipping off the elbow.

In certain cases it is advisable to include the forearm in the bandage, so as to bind it firmly to the chest-wall. But one of the special advantages of this method, in my opinion, depends upon the fact that it can usually be employed without including the forearm.

This form of bandage accomplishes the following results: It fixes the scapula and the outer end of the clavicle, holds the head of the humerus well up against the glenoid cavity, and fixes the whole bone against its natural splint, the chest wall. Among its advantages the most important, in my opinion depends upon the exactness with which, by drawing up the humerus in the line of its axis, the bone and the shoulder-girdle can be held in a position in which there is the least muscular interference with the proper position of the fragments in a fracture of the scapula or clavicle, or of the different bones in a luxation at the shoulder-joint. I find that, with a little manipulation with my free hand, and careful regulation of the upward pull upon the humerus and the downward pressure upon the scapula or clavicle, by means of the bandage as it goes along, I can get all that I can ask for in the way of correct anatomical relation of parts. The position of the humerus, which I have indicated, is also, I believe, a better one than that which is maintained by the bandage most frequently employed—I mean the Velpeau bandage.

The comparative lightness of this dressing is also an advantage, as well as the fact that it leaves the upper and lower ends of the arm uncovered, so that they may be examined at any time, or have applications made to them. The freedom of the forearm I have already alluded to as an advantage whenever it is admissible.

There is no danger of the bandage slipping, if it be snugly and firmly applied, and if it be wide enough. It is easy to make it fit nicely at the elbow, so as to hold this in a sort of cup made by the slight elasticity of the material.

It is also easy, by varying the position of the turns, to make the bandage cover any particular point in the scapula, or in the outer end of the clavicle, or in the humerus. In fractures of the clavicle, or scapula, a suitable compress may be placed over the seat of fracture; while, in any fracture of the humerus, to which such a dressing is suitable, the arm may be splinted against the chest-wall by carrying the horizontal turns high up.

I will not attempt to speak of the conditions to which this form of bandage is applicable, but I think they are all those in which fixation of the arm and shoulder-girdle is the important object.

I am aware that it is somewhat dangerous to call anything new in these days, but I have so designated the bandage I have just described, because I have not met with any description which corresponds to it. If I am mistaken, I shall be happy to be corrected.

3932 LOCUST STREET, PHILADELPHIA.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

XV.

CONSIDERATIONS CONCERNING THE PRACTICAL USE OF MERCURIC CHLORIDE AS A DISINFECTANT.

BY VICTOR C. VAUGHAN, PH.D., M.D.,
PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN THE UNIVERSITY OF MICHIGAN.

SINCE mercuric chloride has been put forward as one of the most reliable disinfectants, its practical use has been largely discussed, and some supposed dangers in its general employment have been brought forward. It was for the purpose of ascertaining how much truth there may be in these statements that the following experiments were undertaken.

Is there danger of the passage of this highly poisonous salt from cesspools and privy-vaults, in which its use has been recommended, through the soil into wells? Sanitarians have had so much to say about well-water being poisoned by the filtration of organic matter through the soil from privy-vaults and cesspools, that it is not surprising that the above question should be asked. In order to answer it, the following experiments were made:

Experiment 1.—A large glass funnel carrying a filter-paper was filled with gravel, taken from a distance of about four feet beneath the surface. The weight of the gravel was eleven and three-fourths pounds, and, when placed in the funnel, it formed an inverted cone with a base of ten inches diameter and an altitude of eight inches. On this was poured one pint of standard solution No. 2 (corrosive sublimate and permanganate of potash, two drachms of each to the gallon of water), recommended for the disinfection of excreta. After a few minutes a pint of distilled water was also filtered through the soil. This was done in order to wash through any mercury that might be held mechanically in the gravel The filtrate was collected, concentrated to one fluidounce, and tested for mercury. The result was negative. The soil retained all of the poison.

Experiment 2.—This was similar to the above, but black loam was used instead of the gravel. The weight of the soil used was seven pounds. The result was the same as with the gravel.

Experiment 3.—In this instance, clay was used. The weight of the clay was nine and one-fourth pounds. As the soil in this case was very dry, it was thoroughly moistened with water before the solution of mercuric chloride was poured on.

These experiments show that the quantities of the different soils, as given above, will remove from solution and retain all the mercury contained in one pint of standard solution No. 2,—fifteen grains of mercuric chloride. That a much smaller amount of soil would accomplish the same result, was shown by the following:

Experiment 4.—One and one-half pounds of gravel were placed on the filter, and one pint of standard solution No. 2—one ounce at a time—was filtered through the gravel. The filtrate contained no mercury.

From these experiments it will be seen that the fear that mercuric chloride may filter through the soil, when used as a disinfectant in privy-vaults and cesspools, into wells and thus poison the water, is groundless. Of course, where there is open connection between the cesspool and wells by the formation of small subterranean rivulets, there would be danger. The fixation of mercury in the soil is doubtless largely, if not wholly, due to the presence of certain inorganic salts, such as carbonates and phosphates, which form insoluble compounds of mercury.

At the recent Cholera Conference at Rome, Dr. Koch gave, as one of his reasons for not recommending mercuric chloride as a disinfectant, the belief that its disinfecting action was interfered with by the fact that it entered into combination with albuminous material, and thus failed to come into contact with germs enclosed in albuminous masses.[1] That a combination between the mercury and albumen does occur may be shown by the following very simple test:

Experiment 5.—Suspend some recently precipitated mercuric oxide in distilled water, add some egg-albumen, agitate thoroughly, and filter. The filtrate is clear and colorless. Boil this filtrate with potassium chlorate and hydrochloric acid until all the organic matter is destroyed. Then test for mercury with hydrogen sulphide or stannous chloride. The mercury will be found to be present, and all that which was used as mercuric oxide can be recovered.

Albumen dissolves the oxide, forming, probably, mercuric albuminate; but there is no reason for believing that the mercuric albuminate does not diffuse through organic matter. As shown in the experiments, it is freely soluble and readily passes through the filter-paper. It is altogether probable that it is this mercuric albuminate which forms such a powerful germicide. In this compound we have the mercury in the shape in which it would most likely be taken up by those lower forms of life which feed upon albuminous material.

Medical men have, for a long time, regarded "yellow wash" as the most successful application that could be made to syphilitic sores. Is it not likely that its great value is due to the formation of mercuric albuminate, which has a local action on the virus, and penetrates the tissue as well? A substance which is not absorbed by living organisms is not poisonous to them, and if by the formation of this mercuric albuminate the most readily absorbable form of mercury is secured, its poisonous properties are intensified.

Further considerations concerning the use of mercuric chloride will be presented as soon as some additional experiments are made. The writer is indebted to two of his students, Messrs. Wagner and Bobb, for aid in the experimental work.

Note.—By Dr. G. M. Sternberg, Chairman of Committee.

I have recently made some experiments to deter-

[1] THE MEDICAL NEWS, June 20, 1885, p. 707.

mine the antiseptic power of mercuric oxide. In the proportion of 1 : 1000 it has prevented any development of microörganisms in veal broth, inoculated with two or three drops of "broken-down" beef-tea. In the proportion of 1 : 2000 and 1 : 4000, it restrained development for a time, but at the end of forty-eight hours the broth became clouded near the surface, and at the end of seventy-two hours, had broken down completely. (The same culture-fluid broke down in 24 hours when not treated with an antiseptic.) This very decided antiseptic power shows that mercuric oxide is far from being "inert" from a biological point of view.

A CASE OF INFLAMMATION OF POSTERIOR BRONCHIAL LYMPHATIC GLANDS LEADING TO FATAL HEMORRHAGE.

BY D. W. BARRY, M.D.,
OF VIENNA, AUSTRIA.

PATIENT, aged 71 years, female; well developed and robust-looking, entered the Allgemines Krankenhaus in May of this year. Complained of "spitting blood." She was examined, but no sign of tuberculosis was found; but, on the contrary, a high grade of emphysema; patient had not lost flesh, had no night-sweats, and gave no history that would tend to show phthisis; nevertheless the case was set down as probably a case of phthisis, owing to the great frequency of this disease in Vienna.

Following a profuse hemorrhage she died, and the autopsy revealed the following:

Brain slightly adherent to dura mater, and atrophic —as would be expected from age of patient—otherwise nothing pathological was found.

Larynx and trachea filled with a blood clot which reached from the vocal chords into the bronchial tubes.

Lungs highly emphysematous; no tubercles were found.

Heart small, fatty, with slight senile thickening about the valves, and slight atheroma at the base of the aorta.

The stomach was then examined in the hope of there finding some cause for the hemorrhage, and was found to contain about four ounces of semi-coagulated dark blood. On the gastric mucous membrane no ulcer or other pathological condition was found.

The lungs, heart, œsophagus, etc., were then carefully dissected out, and, on opening the œsophagus, a small orifice was found on its anterior surface through which a probe could only be passed to the depth of about one-fourth inch. The trachea was then opened, and on its posterior wall, about one inch and a half below the orifice, in the œsophagus, an ulcer was found through which a probe was made to pass into the œsophagus at the orifice in its anterior surface.

As this could not be the cause of the profuse hemorrhage, the trachea was opened completely, the cut extending into the larger bronchial tubes; and in one of these, on the left side, a large, irregular orifice was found which led into one of the posterior bronchial lymph glands; this, on being opened, was found to be completely broken down, and contained blood coagula, necrotic tissue, and, covering the inside surface, was a layer of quite hard fibrine.

On further examination several fistulæ were found, one leading into the trachea, another into the bronchus, and still a third, and more recent, which led into the vena cava superior; this last fistula explained everything, as it was, without doubt, the cause of the last and fatal hemorrhage.

In closing I may say that in this case the autopsy explained fully all the symptoms; as, quite likely, during the slow inflammation of the lymph gland no particular distress was felt, and it was not until a communication was formed between the gland and bronchus that the patient commenced to expectorate blood, and then she sought medical aid. The bleeding at first was small, and probably came from the gland or bronchial tubes; it increased in quantity as the inflammation increased, and the last profuse hemorrhage followed the ulceration into the vena cava.

MEDICAL PROGRESS.

TREATMENT OF INFANTILE CORYZA.—DR. FLATOW, in the *Deutsche Med. Zeitung*, recommends the following treatment for infantile coryza:

℞.—Quiniæ hydrochlor. . . . 1 part.
Glycerinæ . . . . . 15 parts.—M.

S.—Apply a few drops with a brush to the nasal mucous membrane three or four times a day.—*L'Abeille Médicale*, August 3, 1885.

NEPHRECTOMY.—On the 14th of July, Mr. Clement Lucas removed, in Guy's Hospital, by lumbar incision, a large cystic floating kidney, filled with calculi of such a size that they could be felt through the abdominal wall and be made to grate one against another. The organ was removed without injury to the peritoneum, and the patient has progressed most favorably, her temperature since the operation never having risen above normal. On the 16th inst., Dr. George Elder, of Nottingham, performed the same operation on a woman aged fifty-six, for calculous pyelitis, the temperature being normal on the third day after removal of the kidney.—*The Lancet*, July 25, 1885.

TREATMENT OF WHOOPING-COUGH.—H. ROGER recommends the following mixture in the treatment of whooping-cough:

℞.—Tr. belladonnæ . . . f℥v.
Tr. valerianæ,
Tr. digitalis . . . āā f℥iss.—M.

Five drops of the mixture for children under two years. Each day the dose is augmented five drops until thirty drops are given in twenty-four hours. In patients from two to five years old ten drops should at first be prescribed, and every two days the dose increased until it reaches sixty drops. In case the tincture of valerian is badly tolerated it should be replaced by some other tincture—musk, for example. When nervous and spasmodic symptoms are prominent, the author has recourse to chloroform; and in children from two to five years of age administers from six to thirty drops of the drug in any appropriate menstruum.—*L'Union Médicale*, August 6, 1885.

Papayotin in Diphtheria.—Dreier, in *Vratsch*, 1885, No. 15, reports the results of the use of papayotin in the treatment of diphtheria, at the Wladimir Hospital, Moscow.

A five per cent. aqueous solution was prepared daily, and applied profusely to the diseased regions of the throat every fifteen minutes. At night the drug was applied at intervals of two hours. In addition the fauces were washed four times every twenty-four hours with a 1 to 1000 solution of corrosive sublimate. After tracheotomy, a few drops of the solution of papayotin were dropped every fifteen minutes into the canula. Stimulants were given early in bronchitis; a one per cent. solution of bicarbonate of soda was inhaled, and tracheotomy was performed early in the course of the disease.

Only cases in which the diagnosis was early confirmed were selected. Out of twenty-four cases, in six the disease remained local. In twenty cases the constitutional symptoms were manifested. In nineteen there was albuminuria; in one endocarditis; in one diphtheritic myocarditis; in two paralysis of the fauces; in one abscess of the neck; and in one acute nephritis. Of these, fifteen died. In three cases the air-passages were involved, and death occurred in every instance. The papayotin was in some cases applied for thirty hours; in others for periods varying between two, three, and five days, without having any influence upon the temperature or course of the disease. Post-mortem examination also showed the regions covered with the diphtheritic membrane to which the solution of papayotin had been constantly applied. The papayotin used was, however, variable in its action, and sometimes albumen, meat, and connective tissues were completely digested in five hours, while at other times they were only swelled and macerated.—*Centralbl. für klin. Med.*, July 25, 1885.

Treatment of Catarrhal Phthisis, Hæmoptysis, and Chronic Bronchitis by Terpine.—M. Germain Sée considers terpine to possess the power of modifying the mucous membrane of the respiratory tract, and to be also a powerful agent in checking its secretions. He says:

1. It diminishes and causes the disappearance of the purulent expectoration in the catarrhal forms of phthisis, since the purulent secretion proceeds from bronchi irritated by tubercle or from the walls of pulmonary cavities; when the patient is in the beginning of the purulent stage, or, indeed, in the stage when cavities are beginning to form, terpine is indicated in all cases where the formation of pus is sufficient to fatigue the patient, destroy his strength, and cause wasting.

2. It is employed with success in hæmoptysis of beginning tuberculosis—that is to say, when the disease has not yet advanced to the development of large cavities with aneurism of the pulmonary artery.

3. In the treatment of pulmonary catarrh, chronic bronchitis independent of asthma, and only causing dyspnœa by obstructing the bronchi, terpine constitutes the best means of decreasing the secretion.

4. Its action, prompt, certain, and free from physiological inconvenience should make it preferable to preparations of tar and turpentine. It presents, moreover, on account of its perfect harmlessness, and easy digestibility, advantages over creasote.

5. The best mode of administering the drug is either by pill or in alcoholic solution. The best dose is fifteen grains.

6. In the treatment of nervous asthma, emphysematous or catarrhal, which must be distinguished from primitive catarrh, iodine and pyridine possess undoubted superiority.—*L'Abeille Médicale*, August 3, 1885.

Gunshot Wound of the Trachea, Followed by Death from Emphysema.—Rydygier, in *Przeglad lekarski*, 1885, No. 16, reports a case of gunshot wound of the neck, resulting in death from emphysema, notwithstanding the fact that tracheotomy was performed. The patient, a boy seventeen years of age, received the shot at a distance of about ten paces. After receiving the injury, the patient, unassisted, walked home, a distance of more than a mile.

No serious symptoms were manifested, the wound in the neck was scarcely the size of a pin's head and appeared dry, and the only application ordered by the attending surgeon was cold applications around the neck. On the following day there was slight emphysema of the skin around the wound, which extended in a few hours over the face and entire neck. At this time tracheotomy was performed; only temporary ease in respiration was experienced, however, and the emphysema continued to spread further until two days subsequently, when the patient died from suffocation.

Post-mortem examination showed that the bullet had perforated the cricothyroid ligament, the posterior wall of the larynx, the anterior and posterior wall of the pharynx, and had entered the sixth or seventh cervical vertebra. Here it turned at almost right angles, and appeared at the second thoracic vertebra and lay firmly embedded in the bone.

In both pleural cavities there were present about six ounces of bloody serum, while between the posterior wall of the larynx and the anterior wall of the pharynx was found pus, mingled with chyle. The cause of the continually increasing emphysema of the skin, in spite of tracheotomy, is difficult to determine, inasmuch as the perforation of the trachea was above the inserted tube. The termination of the case does not show tracheotomy, and, especially, its early performance, to be contraindicated in small wounds of the neck. The right-angled deviation of the ball is remarkable.—*Centralbl. für Chirurgie*, August 1, 1885.

Case of Double-sided Total Amaurosis in the Course of a Slight Anæmia.—Professors M. Litten and J. Hirschberg report the following singular case of complete double amaurosis occurring in the course of a slight attack of anæmia. The patient, a girl fifteen years of age, complained of having for some time previous noticed impairment of vision, and stated that for two days she had been entirely blind. The girl for her age was rather stoutly built, but seemed to be insufficiently nourished. The skin and mucous membranes were pale. The subcutaneous fat was scanty, but the muscles strong; menstruation began two years ago and occurred regularly. No history of illness, but for four weeks pain in the region of the stomach had

been present. Examination showed no abnormal condition of any of the thoracic or abdominal organs. The pulse was 120, weak, regular, and easily compressible. Over the jugular veins on each side a whirr could be heard and felt. The pupils on each side were alike exceptionally large and staring. The expression of the patient was strange and almost lifeless. Brain clear. Amaurosis absolute. Examination showed choked disk on each side. The optic nerve appeared slightly red and dull, the margins obscure, the veins dilated and choked.

Nothing abnormal was discovered in the urine. Microscopic examination showed a condition of the blood characteristic of anæmia. The white corpuscles were increased slightly in their proportion. In the absence of all other causes, diagnosis was made of amaurosis due to anæmia. In order to observe the progress of the case the child was sent to a hospital. Here she was treated with syr. ferri iodidi, and in addition was well fed and kept in bed. No further pain in her stomach was observed, and her appetite became voracious, and an improved condition of the blood was noted. At the same time the size of the pupils diminished and their staring appearance was less marked.

Three days after the patient's entrance into the hospital she recognized light for the first time, yet only sufficiently to distinguish between the greatest contrasts of darkness and light. Within the next eight days her ability to see improved so rapidly that she could determine whether a curtain was up or down, and also could distinguish large objects at the distance of half a yard with great difficulty.

From this time on there was continuous improvement of vision, but central scotoma persisted, diminishing, however, as time advanced. At the same time the swelling of the optic nerve diminished, and on July 11th a prominence was scarcely visible The veins, however, were distended and full, and exhibited marked pulsation. Ophthalmoscopic examination on July 15th showed the posterior eye-ground to be entirely normal. The general condition of the patient was also much improved and the blood on examination was found to be normal.

The sudden advent of amaurosis and the rapid and complete restoration of vision under appropriate diet and tonic treatment are in this case remarkable features.

From a therapeutic standpoint it is also worthy of remark that the use of the iodide of potassium which is advantageously prescribed in many cases of engorged papilla of central origin would probably have been harmful, while desired effect was obtained by tonic regimen together with the administration of iron.—*Berliner klinische Wochenschr.*, July 27, 1885.

TREATMENT OF NEPHRITIS WITH SUDORIFIC AGENTS.—DR. HESS (*Vratsch., St. Petersburg Med. Wochenschr.*) has used as a means of causing perspiration damp wrapping in fifteen cases, hot baths, with subsequent wrapping in woollen covers twenty-four times, and hot-air baths twenty-one times, and has made observations in six cases of nephritis so treated. His results are as follows:

1. The least rise of temperature is obtained by wrapping, and the greatest by use of the hot baths.

2. While the temperature twenty minutes after the wrapping again falls, it remains after both the other methods elevated for nearly an hour.

3. After the hot-water baths the temperature returns more slowly to normal than after air baths.

4. The pulse by the wrapping process is slowed, but, on the contrary, it is quickened after both hot-air and water baths, and so continues an hour after the bath.

5. Under the influence of wrapping, the respiration is slow; in the baths it is more frequent, but it returns more quickly to the normal than after swathing.

6. The most marked diaphoretic effect was produced by the hot-air and water baths; the least marked by swathing.

7. The baths were the more stimulating to the nervous system, and the swathing the more sedative, and the patients accordingly preferred the former as more energetic and as improving their condition.—*Centralblatt für die Gesammte Therapie*, August, 1885.

MENTHOL AS A LOCAL ANÆSTHETIC TO THE MUCOUS MEMBRANE OF THE THROAT AND NOSE.—DR. ALBERT ROSENBERG, experimenting with menthol, has found it to be a valuable anæsthetic to the nasal and pharyngeal mucous membranes, and, while not displacing, is a valuable supplement to cocaine for such purpose.

In his experiments with menthol, Dr. Rosenberg used a 20 per cent. ethereal solution, and in the seventy cases experimented upon up to the present time, after the use of the agent, a marked diminution in the sensibility of the parts. No inflammation or cauterization has been observed.

In some cases the anæsthetic effect results immediately after the application of the menthol, while in other cases it is observed after a half minute or longer.

The duration of the effects caused by the thymol is not so long as that resulting from the use of a 20 per cent. solution of cocaine, but always persists from a quarter to a half hour, and sometimes is prolonged an hour to an hour and a half. Cumulative effects also seem to result.

To avoid the pain produced by the application, the author employs a 50 per cent. alcoholic solution. He has also employed an oily solution of the strength of 30 per cent. with good results. A 20 per cent. ethereal solution causes great diminution in the sensibility of the throat, and sometimes complete anæsthesia. In two cases cauterization of the pharynx with chromic acid was practised after applying solution of the drug to the mucous membrane, without causing either reflex spasm or pain.

Dr. Rosenberg does not hold that menthol should displace cocaine as a local anæsthetic, but considers its use indicated,

1. In preliminary applications to the nose in order to determine whether a neurosis has its origin in this organ.

2. In cases where the sensibility of the nose is too great to permit operation, and where it is desired to diminish, as much as possible, pain and reflex movements.

3. In operation upon the pharynx, menthol may be substituted for cocaine, either to facilitate examination, or to render such procedure less painful.

4. Experiments hitherto made with the drug upon the larynx are not sufficiently conclusive to establish the extent to which it may be applied, although the sensi-

bility of the p: is diminished and respiration more easy, even in a subject affected with adduction of the vocal cords.—*Berliner med. Wochenschr.*, y 13, 1885.

OPERATION OF THYROIDECTOMY.—DR. T. F. CHAVASSE, in a clinical lecture, reviews the operation of thyroidectomy as follows:

Thyroidectomy having been decided upon, the following points must be considered: I. The question of prognosis. II. The method of operation to be followed. III. The dangers to life during and subsequent to the operation.

I. *Prognosis.*—1. With regard to age. The patient being young, the chances of a successful issue are more favorable. According to Billroth, after forty, a successful termination is very doubtful.

2. The larger the tumor the greater the risk to life, this being mainly due to the increased size of the various bloodvessels. There is also a probability of its adherence to the trachea, especially if the isthmus be a broad one, or of the growth passing backwards between the windpipe and the œsophagus, thus enhancing the difficulty of applying the necessary ligatures to the pedicles. If the goitre be limited to the isthmus of the gland the operation is much simplified.

3. Substernal goitre is very unfavorable for operation, as it can only be reached with extreme difficulty. Experience has shown that the more serious the symptoms of asphyxia, so much the less are the chances of success offered by ablation.

II. *Method of Operation.*—The earliest operations were performed by cutting down upon the gland, extirpating as rapidly as possible, and staunching the hemorrhage the best way the surgeons could.

An advance upon this method was that adopted by Vogel in 1771, in which all the main arteries supplying the goitre were ligatures beforehand, and the gland removed by a circular incision. Hedenus, of Dresden, who was the most successful operator at the beginning of this century, employed a median vertical incision, and the tumor was freed as far as the entrances of the thyroid arteries into the gland. A double ligature was then applied to each vessel, and a division made in the interspace. In spite of these precautions there was often great hemorrhage. If the tumor was attached to the thyroid cartilage or upper rings of the trachea, it was transfixed with ligatures, then another was passed round the entire base and the gland removed.

In a patient upon whom Graefe successfully operated in 1820, the procedure was divided into stages. The right superior thyroid artery was first ligatured. On another occasion the right lobe of the gland was removed. The patient left the hospital, subsequently returning, when the left upper artery was ligatured, and afterwards the left lobe was successfully taken away.

The late Warren Greene, Professor of Surgery in Maine, in 1866, advocated the following method: 1. A linear incision through the integument; avoid wounding the tumor or its fascia propria. 2. Divide the fascia upon a director in the median line. 3. Reflection of the same, and enucleation of the tumor with the fingers and handle of the scalpel, paying no attention to hemorrhage, however profuse, but going on as rapidly as possible to the base of the tumor, and compressing the thyroid arteries. 4. Transfix the pedicle from below upwards with a blunt curved needle armed with a double ligature, and tying each half, or, when practicable, dividing the pedicle into as many portions as there are main arterial trunks, and tying each half separately, and then remove the gland.

In 1871 Dr. P. H. Watson brought under the notice of the profession a mode of operating which he regarded as being rapid and nearly bloodless. For its accomplishment he laid down the following rules: 1. The external incision should be very free, extending from the larynx to the notch of the sternum if the tumor be large and spreads widely in a lateral direction; the vessels, arterial and venous, in this incision should be secured as they are divided, to avoid any obscuration of the parts through oozing. The fascia and skin should be equally opened. 2. The investing delicate fascial sheath of the thyroid gland should be left undivided until the mediate ligature of the vessels included in their fine cellular sheath has been effected. 3. Ligature of the thyroidal vessels in their sheathing cellular envelope by means of a double ligature. The cellular capsule is now opened in the middle line and the attachments, which still retain the goitre, are divided by blunt-pointed scissors.

The advantage of this method is, that the vessels of the gland, which have very frail walls are secured inside their sheath, and do not, therefore, so readily tear. On the other hand, the tendency of the ligature to slip after being secured is increased.

I would here remark that the so-called capsule of a bronchocele varies much in appearance and density; in fact, in one case operated upon by myself there was no semblance of such a texture.

Sir Joseph Lister has added to this procedure by applying additional ligatures by transfixing the pedicle in several places. By so doing the stump that is left is tied in separate bundles behind the ligature taking in the whole thickness. This plan adds somewhat to the time occupied in the performance of the operation, but the restraint of hemorrhage is certain. Even if the main ligature should slip at one or more of the secured angles of the tumor, the pedicle being split up into so many strands by accessory ligatures, no important bleeding can occur.

In a girl, aged thirteen, with a very large goitre, operated upon by the late Professor Spence when I was his house-surgeon in the Royal Infirmary, Edinburgh, at an early period of the operation a double ligature was carefully passed under the isthmus between it and the trachea, tightly tied, and the structure divided between the two. This simplifies matters, by allowing each lobe of the gland to be taken away separately, and the trachea is less likely to be injured.

Professor Lücke, of Strasburg, in his work on *Diseases of the Thyroid Gland*, advocates a median incision, and the pedicle, which is described as being rounded or plate-like, is to be ligatured *en masse* if thin; should it be thick, it is to be subdivided.

The late Professor von Bruns, of Tübingen, who ranks among the most successful of modern operators, directs his skin incision along the anterior border of the sterno-mastoid muscles. If more space be needed at

the lower extremity of this, a transverse cut is made across the neck; double ligatures are applied to the pedicles before removal.

III. *Dangers to Life During and Subsequent to Operation.*—In whatever manner the thyroid gland be extirpated, the operation cannot be undertaken without numerous risks. These may be (*a*) during the operation, or (*b*) during the after-progress of the case.

(*a*) Dangers during the operation: 1. "Hemorrhage" is the first danger that needs attention. This in the earliest efforts was the most usual cause of death, and so principally feared. By securing, before the actual ablation, the isthmus and four angles of this gland this danger has been minimized. 2. "Wounding the Trachea." This is especially liable to happen when the isthmus is adherent to the rings of the windpipe, and if the attempt be made to take away the whole gland at once. Should the trachea be opened, a tube must be at once inserted. The accident is one that tells considerably against a successful issue. 3. "Injury to the large nerve trunks." From the situation of the various nerves it would almost seem impossible to injure them, but cases are on record in which the accident has happened. In one of Dupuytren's, the operation having been completed, the patient had great difficulty in swallowing, rapid and difficult respiration, and constant sickness. Death took place in thirty-five hours. The post-mortem showed that the right recurrent laryngeal nerve was cut and ligatured. In another case of Klein's, during the operation the patient lost his voice and had dysphagia. In three weeks, however, the voice recovered somewhat, but ever afterwards remained a deep bass. In a patient of Billroth's, who died soon after the completion of the ablation, at the autopsy it was discovered that the recurrent laryngeal nerve was included in the ligature securing the inferior thyroid artery. Injury to the recurrent laryngeal may perhaps be accounted for by the fact that, in a large bronchocele, the trachea is frequently compressed and displaced. Hence the nerve in its passage to the larynx is more exposed than normal, and from its close connection with the artery is liable to be ligatured or divided when the bloodvessel is dealt with. 4. "The entrance of air into the large veins." This is an accident extremely likely to happen, as the veins are generally much enlarged. Double ligatures should, therefore, always be applied before any large venous trunk is severed. In a case of Klein's, where this accident happened, the patient died immediately. In one of my own, in which the internal jugular was torn low down on the left side just as the operation was being concluded, the man succumbed in half an hour.

(*b*) Dangers during the progress of the case, the operation being concluded: 1. "Shock." A considerable degree is always present in this operation, as the procedure is a lengthy one, and a clean dissection of the anterior portion of the neck is made; but when the patient has once rallied the after-progress is often rapid and satisfactory. 2. "Secondary hemorrhage." This is least likely to take place when Sir J. Lister's method of securing the vessels is adopted, for then the various vessels are secured by numerous ligatures. In one of Greene's cases operated upon by his own plan, the wound was kept open until reaction was fully established, and in a quarter of an hour the inferior thyroid artery escaped from its single ligature and spurted with great violence, necessitating transfixion of the pedicle with a tenaculum, and the application of another ligature. On the tenth day bleeding again occurred, and, in spite of digital pressure, continued for seventy-two hours, but then stopped. Eventually recovery took place. 3. "Suppuration." This following ablation of the gland may prove fatal in two ways: (*a*) By implicating the surrounding cervical textures and giving rise to œdema glottidis. In a fatal case of Mr. Spence's, occurring eighteen hours after the operation, post-mortem examination showed that an œdematous condition of the glottis existed even before suppuration had commenced. (*b*) By extension into the mediastinum, causing thoracic complications. The use of antiseptics in some form or other will do much to prevent this. 4. "Necrosis of the rings of the trachea." This is only likely to arise in bronchoceles very adherent to the windpipe. In three cases in which it happened, one was due to the application of Maisonneuve's constrictor, and another to the free application of a strong perchloride of iron to arrest hemorrhage. 5. "Septicæmia and pyæmia." Antiseptics lessen these dangers. In five of Billroth's fatal cases death occurred from blood-poisoning. In a private communication my former teacher tells me that if antiseptic precautions had been used in all his cases the mortality would have been greatly lessened. 6. "Syncope." Up to the present time this, as far as I can ascertain, is an unrecognized danger. On August 14, 1884, I removed a bilateral goitre, weighing nine ounces, from a girl, aged eighteen, with very marked symptoms. The patient rallied well from the operation, and two hours after its completion expressed herself as being comfortable. A quarter of an hour later she died suddenly in a state of collapse. The post-mortem examination showed that all the angles of the gland were securely ligatured. As far as could be ascertained after careful search the pleura was intact. However, both lungs were found to be completely collapsed. The cardiac cavities were contracted and empty. In the posterior mediastinum bubbles of air were seen; these could readily be traced down the spine into the abdomen. The subperitoneal fascia there was found to be emphysematous, and the fascia in the iliac fossa was greatly distended with air. Death was, I presume, due to syncope caused by the presence of air, which had gained access during the separation of the thyroid gland from its capsule and surrounding tissues.

My personal experience of thyroidectomy is limited to twelve cases. From these I would make the following deductions: 1. The operation is a grave one, and should not be lightly undertaken, especially as our knowledge of the exact functions of the gland are at present somewhat hazy. 2. I is better to remove one lobe at a time rather than to attempt excision of the whole gland. It is probable that such a procedure will sufficiently relieve all urgent symptoms. 3. That if a capsule exists it should be opened in the median line, and that the angles of the gland should be firmly secured before the goitre is enucleated; that it is best to ligature first the angle of the gland containing the superior thyroid artery, next the isthmus, and to take away

the gland from above downwards, ligature of the inferior thyroid angle being one of the final steps of the operation. 4. That stout carbolized silk is the most reliable material for securing the pedicles. 5. That antiseptic dressings in some form should be employed. 6. That the success of the operation will probably increase with the experience of the operator.—*The Lancet*, July 18, 1885.

THE REGULATION OF PROSTITUTION.—DR. MARTINEAU, at a recent meeting of the Société Obstétricale et Gynécologique de Paris, presented the following conclusions relative to the control of prostitution. He considers as necessary—

1. To keep surveillance over, to restrain, and repress by laws and regulations, old or new, the practice of clandestine prostitution, which is more active in the propagation of syphilis than open, regulated, and legalized prostitution.

2. To compel from legalized prostitutes more frequent medical examination—every three or four days.

3. To suppress medical visits at the residence of prostitutes, except in certain determined cases.

4. To increase the number of dispensaries and of physicians in this service.

5. To suppress the infirmary of the prison Saint-Lazare for legalized and clandestine prostitutes affected with syphilitic disease.

6. To create a special hospital for legalized prostitutes, the hospital of Lourcine being reserved for clandestine prostitutes.

7. To create in the hospital a special service for suspected patients.

8. That the hospital be apart from police supervision, and be managed by the municipal authorities.

9. That the physicians of the dispensary be appointed by competitive examination.

10. That medicine and baths be given to syphilitics in outside consultation with the hospital.

11. An apartment reserved in the hospital specially for women under criminal charge when suffering from venereal disease.

12. To make visits to the hospital obligatory to every prostitute as soon as she finds herself diseased. These visits will not result in the registry of the woman upon the lists of authorized prostitutes.

13, To retain in the infirmaries of the prisons until completely cured all men affected with venereal disease. This power being devolved upon judicial authority only, based upon a medical certificate certifying the nature of the disease.

14. The suppression of pandering, etc., by rigid laws.—*Archives de Tocologie*, August 1, 1885.

MODES OF POISONING BY SULHURETTED HYDROGEN.—MM. P. BROUARDEL and PAUL LOYE, having observed that workmen poisoned by sulphuretted hydrogen frequently died after having exhibited very dissimilar symptoms, have investigated the modes in which the agent destroys life, and reach the following conclusions:

1. It appears legitimate to distinguish two forms of poisoning by sulphuretted hydrogen.

2. In the first form death is sudden, and seems very clearly due to an action of the gas upon the nervous centres.

3. In the second, death results slowly, and to the nervous phenomena are joined symptoms which seem related with asphyxia.

4. The mode of poisoning varies with the amount of sulphuretted hydrogen present in the inhaled air. A dog, after inhaling five litres of air containing 2 parts to 100, died in two minutes. A second dog died at the end of three-quarters of an hour, after inhaling 100 litres of air, containing one-half of one per cent. of the gas. Absolute quantity of the gas is, therefore, of less importance in poisoning by it than the degree of its tension in the air.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, August 7, 1885.

EXPERIMENTAL RESEARCHES UPON FRACTURES OF THE BASE OF THE SKULL.—WILHELM GREDER, in experimenting upon fractures of the skull, with weights ranging from 200 to 240 pounds, let fall from a height of four feet upon the heads of cadavers, has arrived at the following conclusions:

1. Solutions of continuity of the base of the cranium, so far as concerns longitudinal, transverse, or oblique fractures, should be considered as fissures the result of a species of rupture.

2. The direction of the fissures is parallel to that of the pressure exercised.

3. The extent of the fractures depends upon a great number of conditions, variable in each skull and each experiment, and cannot be supposed to depend only upon the violence of the blow.

The most practical result obtained is that from the direction of the blow, the probable direction of the fracture can be deduced, and consequently determined, the organs receiving and escaping injury. Inversely, the medico-legal expert can deduce the direction from which the blow proceeded according to the direction of the fracture.—*Deutsche Zeitschr. für Chirurgie*, 1885, Bd. xxi. Hft. 5 and 6.

EXPERIMENTS IN BACTERIO-THERAPEUSIS.—PROF. ARNALDO CANTANI, of Naples, in view of the fact that other bacteria are destructive of Koch's tubercle bacillus, has recently made some experiments relative to the therapeutic treatment of tuberculosis by means of the bacterium termo. He first found by experiment that the bacterium termo, whether inoculated, inhaled, or injected, exercises no harmful influence upon the tissues of living animals. He then caused a spray of fluid containing this bacterium to be inhaled by a patient suffering from tubercular disease of one lung, whose sputa contained tubercle bacilli in large quantities, as shown by the microscope, and also by the results of injection practised upon small animals.

These inhalations continued daily for a month, were followed by the rapid improvement of the patient, especially in the local conditions.

The sputa, examined at frequent intervals, were found to become less and less rich in the bacillus tuberculosis, but were full of bacteria termo, and their injection into the lower animals failed longer to produce tuberculosis.—*Centralbl. für die Medicinisch. Wissenschaften*, July 18, 1885.

MICROBES OF SYPHILITIC ULCERS.—At a meeting of the Académie de Médecine de Paris, held August 4, 1885, M. CORNIL made an interesting *résumé* of the investigations of MM. Alvarez and Tavel upon the microbes of syphilitic ulcers. The report of the investigators is the following:

1. There exists in some of the normal secretions of the body a bacillus, which, up to the present time, has not been pointed out.

2. This bacillus is identical in form and in its behavior with coloring agents with that which Lustgarten has described as the special bacillus of syphilis.

3. It is possible that the bacillus which Lustgarten has found in sections of syphilitic growths and in syphilitic secretions is this common bacillus.

4. Our bacillus is very similar in form to the bacillus tuberculosis, and presents many of the coloring reactions which hitherto have been considered as peculiar to Koch's bacillus, and to that of leprosy.

5. It is distinguished from the bacillus of tuberculosis by being less thick, and of a less granular appearance (conditions difficult to appreciate in a single examination), by its inferior resistance to alcohol, after staining with fuchsine and treatment by nitric acid. It is further distinguished, by its failure to be stained by methyl-violet, according to Ehrlich's method.

6. In the clinical diagnosis of tuberculosis, made by microscopical examination of secretions, these facts should be held in mind.—*L' Union Médicale*, August 6, 1885.

CONGENITAL DEFECT OF THE HEART.—VON ELLENGER, in the *Archiv für Kinderheilkunde*, Bd. vi. Hft. 2, records the annexed congenital defect of the heart. The child in which it occurred was fourteen days old. Impulse of the heart was to the left at the fifth and sixth intercostal spaces, and in the mammary line, with apparent enlargement of the heart in its long axis. The pulse varied between 60 and 76. At all four cardiac orifices an apparent systolic murmur was heard, though no normal heart sound was perceptible. In the interscapular space a murmur was also audible, but insignificant. Intense cyanosis of the face existed, and a pneumonic condition was slowly developed. The cyanosis increased and hemorrhages occurred in various parts of the body. The heart symptoms also became more marked, and death resulted at the age of two months.

Post mortem showed the following: Transposition of the aorta and pulmonary artery; muscular stenosis of the arterial cone; persistence of the foramen ovale, and a pervious condition of the ductus Botalli; defect of the septum ventriculi, and double broncho-pneumonia.—*Centralbl. für klin. Med.*, July 8, 1885.

INCISION OF THE PERICARDIAL SAC IN SUPPURATIVE ENDOCARDITIS.—DR. E. A. MICHAELOFF, in *Medizinskoje Oboerenje*, 1885, No. 5, reports the case of a woman, aged thirty-five years, who entered the hospital with symptoms of suppurative pericarditis.

The liver was enlarged; there were anasarca, albumen in the urine, and general emaciation. Increasing dyspnœa, cyanosis, and weak pulse, together with complete inability to sleep, made puncture of the pericardium necessary. The operation was accordingly done, and the needle introduced at the fourth intercostal space. Puncture resulted in the escape of nearly three ounces of pus, followed by half the quantity of almost pure blood. Inasmuch as improvement continued for only a short time, on the second day an incision was made, four-fifths of an inch in length, close to the sternum and in the region above indicated. After removal of about a quart (two pounds) of blood-colored, bad-smelling pus, the pericardial sac was washed with a solution of resorcin, and drainage established. Immediately after the operation good effects were manifested. the dyspnœa disappearing, and the frequency of the pulse diminishing from 120 to 90. Improvement was, however, only temporary, and the patient died in eighteen hours in collapse. Post mortem revealed the presence of fatty degeneration of the heart, with dilatation, marked right hydrothorax, chronic perimetritis, and a general marasmic condition.—*Centralbl. für Chirurgie*, July 4, 1885.

A CONTRIBUTION TO THE OPERATION OF RESECTION.—DR. EMILE BOUCHEZ, in an original paper on the results of operation for resection, arrives at the following conclusions:

1. The mortality was *nil*, excepting one case, in which it was insisted upon by the patient, although contraindicated by an osteomyelitis of unknown extent.

2. The reëstablishment of general health after the operation was immediate and remarkable. Emaciation gave place to *embonpoint*, and by the second month exercise in the open air was possible.

3. Bony anchylosis and good position in two cases operated on for scrofulous tumor of the knee gave excellent results. In one case an apparatus was necessitated. The result was only passable. In three cases—Arabs—the ulterior results are unknown.

In a case of fungous and suppurating osteoarthritis of the wrist prehensile movements of the fingers are still possible, and the author believes that the periarticular swelling and infiltration of the tissue will disappear with time.

The cases on which these observations are made include three resections of the knee, one of the hip, one of the shoulder, one of the elbow, and one of the wrist.—*Archives de Médecine et de Pharmacie Militaires*, Aug. 1885.

NUTRITION WITH MEAT PEPTONES. — DR. EMIL PFEIFFER, after an experimental study of the value of meat peptones as an article of food, vouchsa es the following conclusions. He says: Both peptones (Koch's and Kemmerich's) possess great value as nutrients. The preparation of Koch has no superiority over that of Kemmerich. On the contrary, the preparation of Kemmerich is better applicable in cases of overfeeding, as also in cases of insufficient nutrition, because it produces in the first a greater residue, and in the second a marked diminution of the nitrogenous loss. Through its greater solubility in water, and on account of its more pleasant taste, Kemmerich's preparation has practical advantage over that of Koch.

The larger doses required of Koch's preparation, and the possible intestinal irritation and diarrhœa thereby caused, will greatly diminish the general use of this peptone.

Kemmerich's meat preparation is well adapted to use *per enemata*.—*Berliner med. Wochenschr.*, July 27, 1885.

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SATURDAY, AUGUST 29, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

THE majority of the physicians of the United States who have followed the progress of affairs in regard to the Congress, will probably assent to the following propositions:

1. The Congress is a purely scientific body, having nothing whatever to do with ethics or medical politics.

2. The invitation to the Congress was not given as coming from the American Medical Association, and it was not accepted by the Congress with the understanding that the meeting would be under the special patronage and control of the Association, or of any other medical society.

3. The Original Committee of eight was fully authorized by the resolutions which created it, to add to its membership, and to proceed with the work of organization without special reference to the American Medical Association.

4. The enlarged committee formed by the Committee of eight effected an organization which was satisfactory to the Executive Committee of the International Congress, and which bid fair to make the meeting a great success.

5. The action of the American Medical Association at New Orleans, in refusing to accept this organization, and in assuming control of the whole matter, was discourteous to the Congress, and injurious to the reputation and interests of the medical profession of the United States.

6. This action, and the action of the Committee of the Association, have given rise to great dissatisfaction both in this country and abroad, so much so, that if they are persisted in there is very great danger that the Congress will not hold its next meeting in this country.

7. The honor of the medical profession of the United States demands that through no act of theirs shall the agreement be set aside, by which the Congress at Copenhagen in 1883 was led to accept the invitation to meet at Washington in 1887.

Now in view of these facts what is the duty of the Committee of the American Medical Association?

The so-called proposals for compromise which we have heard of, such as allowing all societies to send members, or even delegates, provided no New Code man is allowed to hold office, will, if adopted, simply make the injustice more glaring, because they are a practical acknowledgment of the fact that the Congress is a purely scientific body, and that medical politics should not enter into its organization—while, at the same time, they introduce politics in the form of an offensive discrimination against some of our best known physicians. Such a proposition, if adopted, would simply prove an additional source of irritation, and do no good whatever.

When we consider the fact that the leading Old Code men in New York meet the New Code men freely in consultation; and that the Editor of the *Journal of the American Medical Association* and Dr. Jacobi, of New York, have been working together as the American Committee of the international organization for collective investigation, it surely needs no argument or illustration to prove that the ignoring of the Code question in the International Congress is in no way derogatory to the dignity of the American Medical Association, or to that of any member of it. This was the view that was taken by the original enlarged Committee, and its wisdom will be agreed to in the future by those who have been most violent in condemning it.

The American medical profession wants to have a large and successful Congress; it wants the leaders of European medicine to be present at it; it wants its own best observers, experimenters, and thinkers to present their work at the sessions, and obtain the honor which is their due; and it is to those who thus participate, and to those only, that the laurels of the Congress will fall.

The members of the new Committee have carried out their instructions, and have tried to organize the Congress; they signally failed at the outset because it was recognized that the reason of its existence was disappointed personal ambition, and because their leaders did not possess the confidence of the profession at large. Over one hundred and twenty-five of the most eminent of their appointees, representing every section of the country, declined to accept office under them. The withdrawal from all official connection with the Congress of such a large proportion of the most distinguished mem-

bers of the profession in America has had the effect of creating a strong sentiment among the profession in Europe that, unless the arrangements for the holding of the next Congress are placed in the hands of men whose names are an international guarantee of the success of the meeting, the authority of the Executive Committee should be exercised, and the meeting of the Congress in 1887 be held not in America, but in some other country, to quote the language of the London *Lancet*, "in which the medical profession will not find it impossible to combine for international purposes."

Since their appointment by the American Medical Association, the New Committee have learned that the Association has no authority to organize the Congress. Now self-respect, the honor of their country, and their duty to the International Medical Congress, alike demand that they shall decline to continue their work of organization, and that they shall take the straightforward, manly course of declaring that the Association has made a mistake, due to insufficient information and a misunderstanding of the rules and wishes of the Congress, and that they make way for a Committee which shall possess the requisite authority and which can command the respect and support of the profession both at home and abroad.

HOT WEATHER DIETETICS.

IT has been aptly suggested that the relation of a human body to its constituent element is closely analogous to that which a dissected map bears to its parts, each of which must be exactly fitted in its proper place, or else the whole design is rendered imperfect. Doubtless many of the chronic derangements of health which entail so much suffering upon humanity, are due to the incomplete supply, by food, of some minute yet important ingredient, the absence or deficiency of which, like the loss of a correspondingly small portion of the divided map, mars the perfectness of the entire structure.

Not only must the human organism be built up in the first place, with its necessary components in precisely their requisite quantity and arrangement, in order to constitute a complete whole, but for the further maintenance of health these essential elements must be continually replaced as they become effete, from the constituents of our diet, in exactly the right proportion. Hence, the vital necessity imposed upon us all, of so regulating the food we eat, in correspondence with varying external conditions of the environment, as to fulfil this law which ordains that for every atom of tissue worn in the vital processes, another atom must be conveyed into the system as food, dissolved in the digestive apparatus, and transmitted in a liquid form to the blood, in which it is carried to the remotest recesses of the system, and assimilated into the tissues during the unceasing operations of repair.

If mankind were constantly subjected to the action of the same temperature and humidity, of the same amount of exercise, of similar periods of repose, and of other similar minor modifying influences, a standard bill of fare, adapted to all divisions of the year, might, perhaps, be agreed upon. But since the ever-varying conditions of existence continually change the amount and kind of tissue waste, and as the different seasons roll round in their appointed course, it is evident that naught but a watchful compliance with the varying physical requirements can secure the most appropriate renewal of life, and, therefore, the most prolonged retention of perfect bodily health.

If we consider the alterations which elevation of temperature renders judicious in regard to the supply of ingesta for the human organism, we find that one of the most important modifications of diet, which is advisable during the summer months, is a reduction of the fatty or heat-producing, and of the nitrogenous or muscle-forming materials, in correspondence with the diminished activity in the processes sustaining the animal temperature. In cold weather the loss of caloric is so rapid, that large quantities of carbonaceous matter must be burnt up, in the innumerable, tiny, atomic stoves of the body, to preserve the standard heat of 98.4° Fahr. But when the external air approximates to this temperature, radiation and conduction proceed, of course, much less speedily, and such a relatively great amount of fatty and nitrogenous food being uncalled for and unconsumed, overloads and oppresses the digestive apparatus. The experience of Englishmen in India is very conclusive upon this point, and one of Becquerel's excellent rules for visitors to hot climates, is that they should scrupulously confine themselves to a comparatively scanty and unstimulating diet, avoiding in great measure such articles of food as fat meat, eggs, cheese, etc., during the continuance of the warm season.

On the other hand, just as an excess above the average amount of heat-producing elements should be partaken of in winter, so an augmented quantity of watery fluids, and of succulent fruits or vegetables, ought to be ingested during the summer. A very important part of the wonderful heat-regulating function of the organism is accomplished by the elimination of moisture from the skin and lungs, which, in the process of vaporization, carries off the excess of heat, so that an abundant supply of water, either in food or drink, is ordinarily one of the imperative necessities throughout the summer months. Hence the ingestion of cool water, in small quantities frequently repeated, of mildly subacid fruits,

such as strawberries, blackberries, peaches, or melons, and, under appropriate restrictions, of such vegetables as fresh potatoes, corn, tomatoes, raw cabbage, celery, and similar articles of diet, is as a rule highly conducive to health. Few persons indeed realize the vital necessity which exists during exposure to high temperature, for a very frequent and systematic imbibition of fluid, to keep up this abundant flow of perspiration from the skin, and we feel assured that had this urgent demand for cool water been properly understood and duly complied with, such an extraordinary mortality from "sunstroke" during the late heated term, of forty-seven fatal cases in a single week, would not have appeared in our death-register. The value of a continuous supply of small draughts of water, as a prophylactic against sunstroke, was often illustrated in the late war during the summer marches of the Army of the Potomac. Dr. Smart tells us, "if the water in the canteens lasted until the next opportunity of refilling them, so that ingestion and transudation were equalized, the men pushed along, faint from fatigue perhaps, but in no danger from sunstroke. If on the other hand the supply failed, and the skin became dry, danger from sunstroke was imminent."

Many of our summer fruits, consisting, as they frequently do, of from seventy to ninety per cent. of water, constitute delicious substitutes for frequent draughts of aqueous fluid; but, even the fruits and vegetables which usually prove wholesome, are exceedingly apt, if freely partaken of when they first make their appearance, and before people have grown accustomed to their use, to cause disorder of the bowels, and, as is well known, sometimes to set up violent, perhaps fatal, cholera morbus. Whilst, therefore, it is very important to approach gradually free indulgence in the feast of luscious fruits which nature bountifully provides for us even in ordinary seasons—the chance of a cholera visitation should render us particularly cautious this year, because diarrhœal disturbance not only makes an individual far more liable to contract cholera, should that epidemic disease synchronously prevail, but, to the usual danger, adds the liability, which cases of cholera developing from a preëxisting diarrhœa possess, of being far more apt to prove intractable and fatal. Hence, should fruit and vegetables display a tendency to cause looseness of the bowels during our heated term, which often runs far into September, the necessary amount of liquid to supply the demands of the heat-regulating apparatus of the organism ought to be imbibed in the form of well-boiled and filtered water, cooled with pure ice, of weak iced-tea, or of some analogous beverage.

Of course, if Asiatic cholera, in spite of all our precautions, actually does make its outbreak this year upon the North American continent, prudence dictates that every article of diet consumed during warm weather should be purified from the living germs of the comma-bacillus by heat—that is, by exposure for at least half an hour to the temperature of boiling water, *as short a time as is practicable before it enters into the human stomach.*

PHYSIOLOGICAL ALBUMINURIA.

WHETHER or not, in strict accuracy, there be such a thing as physiological albuminuria, there can be no doubt that it occasionally happens that albumen is present in the urine of those who exhibit no other symptoms whatever of renal disease. There are three separate varieties of this condition: The albuminuria of the newborn, which approximates more nearly than any other form to a true physiological albuminuria; the albuminuria of adolescence; and the albuminuria of otherwise healthy mature men.

First, as to the albuminuria of the newborn. Virchow, Dorn, Martin and Ruge, and Hofmeier, have all called attention to this condition. Hofmeier says it is almost invariably present in the newborn. According to Ribbert, albuminous urine is secreted by the fœtus, and disappears a few days after birth. It is explained by Ribbert that in the fœtus and newborn child the epithelium which covers the glomerule is not flat and invisible as in the adult, but cubical, and the cells are protoplasmic, more like gland cells, and, like the latter, they separate albumen, while the office of the flat endothelial cells in the adult is to retain the albumen and to permit the water, only, of the blood to filter out.

Rosenbach, on the other hand, suggests that at the time of birth many corpuscles disintegrate, and that the albumen thus liberated, being superfluous, is secreted by the kidneys and appears in the urine. Senator, in *Berliner klin. Wochenschrift* for April 20, 1885, is inclined to attribute the condition to a number of causes, of which the most important is the sudden increase of vascular pressure which takes place in the glomeruli at the moment of birth. At the same time begins an abundant loss of water from the skin and lungs, as the body passes from the influence of the surrounding amniotic liquor into that of the atmosphere. These, with the increased amount of albumen due to the disintegration of blood corpuscles already referred to, and perhaps also an increased proportion of salts, are sufficient to cause the albuminuria, or to increase that already existing, during fœtal life. Within the first five days of life, however, the conditions change. The loss of weight which immediately succeeds birth, is first compensated, then the weight goes on increasing, the blood becomes more watery, the urine increases in quantity and is reduced in specific gravity from 1010 to 1006 and 1004, and the albuminuria disappears.

The albuminuria of adolescence less justifies the term physiological. Occurring more particularly in young men from fifteen to twenty years old, it is not always unassociated with other symptoms. There are often rapid growth and development, and a feeling of debility not infrequently accompanies these. It is even less easily explained than the albuminuria of the newborn. The large demand made upon the albumen of the blood at this period of life for the purposes of growth and development, produces a state the reverse of that assigned as a cause in the newborn infant, a thinness of the blood. This may be excessive, and lead, especially in connection with a feeble propulsive power of the heart and a defective nutrition in the kidney, to a transudation of albumen-containing fluid. Doubtless some of the causes which will be next mentioned as responsible for the albuminuria of adults, may also operate with the adolescent youth.

The last variety deserves, least of all, the term normal albuminuria, although it is so often unaccompanied by any other symptoms of ill-health. An increasing number of such cases is daily reported, but although, according to Senator, albumen is found in the urine of from ten to twenty per cent. of apparently healthy adults, we insist that it cannot be regarded as a normal phenomenon. Certainly he who has it, is not so well off as he who has it not, and while active treatment may not always be judicious, yet there are many acts in life which may be performed without risk by one in whom the condition does not exist, but which should be avoided by the subject of such an albuminuria.

These albuminurias are always small, and sometimes accompanied by a few hyaline casts. Among the conditions sometimes associated with them, and which may be said to be more or less responsible for them, are great muscular activity, the ingestion and digestion of highly albuminous foods, mental excitement, and cold bathing. Hence such albuminurias are often intermittent. They may be sometimes due to vaso-motor derangements, but the instances in which these causes can be pointed out as responsible are very few.

The effect of cold baths in producing albuminuria has scarcely excited sufficient attention, and the fact that they do produce it is too often overlooked by physicians in their advice to patients concerning bathing. Long-continued immersion, of course, tends more strongly to produce it, and an existing albuminuria, whether it be of the kind called normal, or the result of recognized renal disease, emphatically and totally contraindicates cold bathing.

CONDUCT OF THE THIRD STAGE OF LABOR.

PROCHOWNICK communicates to the *Centralblatt für Gynäkologie* a paper upon the management of the after-birth period. Referring to the recent criticisms of Credé's method, he states that in none of these was included the objection, which he regards as the most important. This is the pain that the method causes, and the unwillingness of some patients to submit to it; while, it may be urged, the majority of women would not complain, yet many nervous, sensitive women would. Our own opinion, on the other hand, is, that this suffering, usually, is not great—certainly not as great as that which was endured for hours in the previous stages of labor—and is so brief that few object.

Prochownick gives his own method as follows: Immediately after the birth of the child the flat hand is laid upon the woman's abdomen, and, after the lapse of a few minutes, slight friction is made upon the fundus for the exciting of energetic after-pains. After the third uterine contraction has taken place, he asks the patient to flex her lower limbs, placing the soles of her feet against the foot-board, and make an expulsive effort, which in primiparæ raises the accoucheur's hand, which frequently in the parous sinks down between the recti muscles, that have been separated by pregnancy. If the placenta is not expelled, this must be repeated once or oftener, even to the seventh contraction. He states that in only one case did he have to wait longer than the seventh contraction. He is favorable to the use of ergot at the close of, or just after, the second stage of labor.

We believe the hand which is applied to the abdomen should not be flat, but concave—the manual concavity fitting to the uterine convexity—for then the uterus is defined, limited, a larger surface embraced, and any relaxation of the organ prevented, or at once recognized and remedied. Besides, a flat pressure, acting only upon the anterior wall, may, if this be greatly relaxed, so depress it as to prepare the way for uterine inversion. Certainly the part of Prochownick's plan which makes the woman a voluntary participant in the expulsion of the placenta, is good.

REVIEWS.

THE CLIMATE OF CANADA, AND ITS RELATIONS TO LIFE AND HEALTH. By WM. H. HINGSTON, M.D., D.C.L., etc., Surgeon to the Hôtel-Dieu, Professor of Clinical Surgery Montreal School of Medicine. Pp. 200. Montreal: Dawson Bros.

IT is not often we are so agreeably disappointed as we have been in this book. Instead of a mass of dry statistics and meteorological tables, which the title had led us to expect, we found an exceedingly interesting and instructive volume, in which the weary details of the observatory have been "digested and assimilated" and interwoven with so many and varied observations on geographical, hygienic, social, and ethnological questions, that the whole forms a contribution which will be of great value to any one seeking information about

Canada. Part I. deals with the physical geography and the climate, considered under the four seasons; Part II. with the relations of climate to health and life. In the latter the prevalent diseases and mortality are carefully reviewed. Perhaps the most interesting sections are those referring to the natural history of the French Canadians, the remarkable fecundity of the women, and the vigor and endurance of the men. Tables are given of the height, weight, and lumbar strength of the English and French-Canadian medical students, which show the former to be somewhat taller, but not so strong as the latter. It is a pity that fuller anthropometric observations have not been made, as it would appear that Canada offers a particularly suitable place in which to study the development of the English, Irish, and French races. Conclusions from the examination of a few hundred of individuals are not worth much, as can readily be seen by comparing the author's older and more recent tables. In the latter the lumbar strength of the British-Canadian students was greater than in the French-Canadian of the first series, and there seems to have been an extraordinary rate of increase in lumbar strength during the twenty-five years which elapsed between the observations, an average of 53 pounds in the case of the English and 48 pounds in the French students.

The work contains much matter of general interest, and is written in such a pleasant style, and contains so many references to social and racial problems, that it is certain to find a wide circle of readers. A table of contents and an index would have increased the value of the work.

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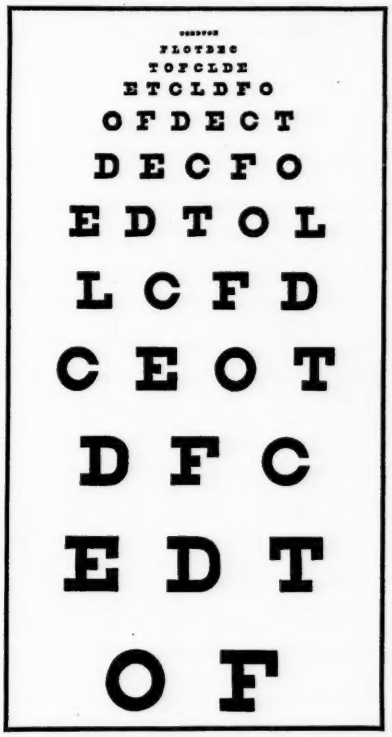

placing. Each line thus serves as an important adjuvant in the detection and the correction of astigmatism. *Third, the Interspace.* Each letter is surrounded by a free space which is greater, or at least equal, to its own area. The reasons for this are obvious. *Fourth, the Gradation.* To avoid unnecessary mental effort by the use of irregular fractions and to render computation quick, $\frac{5}{5}$ instead of $\frac{6}{6}$ has been assumed as $\frac{1}{1}$. The order is as given below.

This scale was partially made use of by De Wecker, but unfortunately it never gained sufficient popularity to be universally employed. The advantages are great, and can be compared with the superiority that the decimal system of coinage possesses over other methods of money valuation. *Fifth, the Reverse Order.* This arrangement saves time by the lack of necessity of the patient reading many letters before the proper line is arrived at, and allows a more correct answer, by reason of the eye not becoming fatigued.

$$\frac{1}{2}, \frac{1}{1}, \frac{3}{4}, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{7}, \frac{1}{8}, \frac{1}{9}, \frac{1}{10}.$$

$$\frac{\text{II}\frac{1}{11}}{\text{V}}, \frac{\text{V}}{\text{V}}, \frac{\text{V}}{\text{VII}\frac{1}{11}}, \frac{\text{V}}{\text{X}}, \frac{\text{V}}{\text{XV}}, \frac{\text{V}}{\text{XX}}, \frac{\text{V}}{\text{XXV}}, \frac{\text{V}}{\text{XXX}}, \frac{\text{V}}{\text{XXXV}}, \frac{\text{V}}{\text{XL}}, \frac{\text{V}}{\text{XLV}}, \frac{\text{V}}{\text{L}}$$

The cards are manufactured in the following manner: The size of No. L type is estimated, and India-ink sketches of the seven selected letters are drawn to that

[1] Abstract of a paper read before the American Ophthalmological Society, July 15, 1885.

scale. Photographic reductions to the various chosen sizes are obtained, Reverse phototypes are made of each letter: these are tacked on cardboard in the order as they appear on the regular card, and are rephotographed and rephototyped to the same size.[1]

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1507 LOCUST ST.

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

THE SMALLPOX EPIDEMIC.—During the last month smallpox has increased enormously. It is confined chiefly to the French part of the city, and the deaths that occur are almost altogether among the French. They neither vaccinate nor take any precaution to avoid infection, many even exposing their children to the disease intentionally. As the disease is sent by "*Le bon Dieu*," they say, of what use is it to take any precautions. In the French parish church, the other day, was a large meeting of people to pray God that the scourge might be removed, and on that occasion the officiating priest distinctly told the people that the smallpox was sent by the Deity on account of the sinfulness of the people. He called on them to repent and lead better lives, as the only means of staying the disease, but not a word was said of vaccination or other means of prevention. Although there is a great deal of smallpox here, the reports outside are very much exaggerated, and the panic is quite out of proportion to the extent of the disease. The death of Sir Francis Hincks from smallpox, a few days ago, has done more to arouse the people to a sense of their danger than would the death of a hundred insignificant individuals.

There are probably at present in the city about 500 cases of smallpox—not as much as there was five or six years ago. The civic hospital, which only contains 50 beds, is full, of course. The deaths for the past month have been over 100, and, with two or three exceptions, all amongst the French. There is no doubt, however, that the disease is increasing, and the health authorities are waking up to the fact. Public vaccinators have been appointed, and all the large warehouses and manufactories are compelling their employés (who are chiefly French) to choose between vaccination and dismissal. The English-speaking people are flocking to their physicians to be vaccinated, and it is difficult to get sufficient lymph to supply the demand.

Amongst the French there is, however, little stir, and but little is being done in the way of vaccination, except with those connected with the large establishments and manufactories, which are controlled by Englishmen and English capital. The French physicians are very lukewarm about the benefits of vaccination, and not a few are actively opposed to it. Unless the Roman Catholic Church takes up the subject and preaches vaccination and isolation to its people, the smallpox will remain with us till it wears itself out, in spite of the efforts of the health board and the English-speaking population. For four years we have been free from the disease, and the amount of virgin soil the disease will have to work on may be imagined.

FAITH CURES.—As usual at this time of the year, pilgrimages to St. Anne de Beaupré, below Quebec, are very numerous. Every pilgrimage is, of course, accompanied by priests and pious physicians, and many cures result from the prayers of the faithful before the shrine. As a rule, these cures are in hysterical girls, and are not much to be wondered at. In fact, for certain forms of hysteria in pious young girls, when other methods fail, a pilgrimage to a holy shrine, or a visit to the faith conventions, is often attended with marvellous results. I often wonder that this remedy is not mentioned in our standard works on therapeutics. The last pilgrimage to St. Anne de Beaupré accomplished, strange to say, only one cure, and that not a hysterical one. It appears that a boy who had for years been unable to walk without crutches, and who had had "running sores" in his leg, on visiting the shrine threw away his crutches, and the sores healed up instantly, and he was able to walk. This cure was certified to by several French physicians, who said that not only were the sinuses healed, but that in the healing the linen that covered them was thrown into the sinus and was with difficulty afterwards separated. On coming to the city, the newspaper reporters got hold of the case and asked a physician of repute to examine the boy for them. He did so, and found the case was an old one of hip-joint disease with ankylosis, that no doubt the patient did shuffle along in a way without his crutches, but that he could have done so had he tried before he went to St. Anne, as there was nothing to prevent it. As to the sinuses, some were healed certainly, but others were still discharging thin, watery pus through small openings, and that the disease still existed. Why should the good St. Anne not do her work more thoroughly? is the question asked by the wicked sceptics.

NEW BRUNSWICK MEDICAL SOCIETY.—The fifth annual meeting of this Society was held at Fredericton, on July 21st and 22d, the President, Dr. Walker, in the Chair. The following were elected officers for the ensuing year:

President.—Dr. P. R. Moore, of Sackville.
First Vice-President.—Dr. Coulthard, of Fredericton.
Second Vice-President.—Dr. Thorne, of Havelock.
Secretary.—Dr. Musgrove, of Carleton.
Corresponding Secretary.—Dr. Bruce, of St. John.
Treasurer.—Dr. D. E. Berryman, of St. John.

HOW CHOLERA SPREADS IN SPAIN.—*The Medical News*, Madrid, August 4, states that the Commission recently sent into the infected districts of Spain report that in all the villages they were able to visit they found the same clinical characteristics of the disease; that in the towns supplied with water from springs or wells cholera either did not prevail at all, or to a very limited extent, while in the towns supplied with water from streams the disease was very destructive, the water being contaminated by the washing of the clothes of cholera patients.

[1] Reading-types based upon the same plan are now in the process of construction.

FURTHER DECLINATIONS OF OFFICE IN THE CONGRESS.—We are informed that Dr. James F. Hibberd, of Richmond, Ind., has declined to accept the Vice-Presidency of the Section of Physiology, that Dr. J. H. Wythe, of San Francisco, has declined the office of Councillor in the same Section, and that Dr. Henry D. Noyes, of New York, has declined the Vice-Presidency of the Section of Ophthalmology.

THE REMOVAL OF DR. L. C. LANE FROM THE VICE-PRESIDENCY OF THE CONGRESS.—In refutation of the charge made at the Chicago meeting of the New Committee, that Dr. L. C. Lane, of San Francisco, was an advocate of the New Code, the *Pacific Medical and Surgical Journal* publishes two letters which it has received, and from which we make the following extracts.

Dr. W. P. Gibbons, President of the Medical Society of the State of California, says:

"I deem it proper to state that I know of nothing, nor have I ever heard aught, either publicly or privately, that justifies this implication.

"Furthermore, after a personal acquaintance of over twenty years, and an intimate knowledge of his professional career during this time, it affords me pleasure to state a belief which I have long entertained, in common with the mass of physicians on the Pacific Coast, that his labors as a physician and a public teacher have been associated with an untarnished reputation, and that he is deservedly entitled to be placed among the foremost of those who have advanced the science of regular medicine, and aided in building up its superstructure on the western slope of the continent."

Dr. J. Grey Jewell, President of the San Francisco County Medical Society, writes:

"No man has ever been, or could be, more loyal to regular medicine and the old code of ethics than Dr. L. C. Lane. The charge to the contrary recently made against him at Chicago was a painful astonishment to me, as well as to the leading members of the medical profession here, with whom I have conversed freely on this matter."

The *Pacific Medical and Surgical Journal* makes the following comment:

"Dr. Lane is in good standing in the State Society, and the State Society with the American Medical Association, and therefore to say that he was a 'new code' man can only have been used as an excuse to prevent his reappointment. A removal such as this, for such a reason, will produce an ill feeling among the profession of California, which will only help in preventing the meeting of the Congress upon American soil being an honor to America."

HOME OPINIONS ON THE CONGRESS OUTLOOK.—The destructive work of the American Medical Association, and the reconstructive work of its new committee, do not appear to be gaining favor with the profession at large.—*Louisville Medical News*, August 15.

The outcome must be either a final refusal of the Congress to meet in this country, or a meeting which is a practical failure.—*Northwestern Lancet*, August 15.

Without doubt, the American Medical Association is the representative of the profession, and therefore the Congress convenes under its auspices; but it should be borne in mind that this latter body is an assembly of medical men, and not a convention of societies, and is not therefore bound by any code of ethics.

The profession in every country has its own rules for the guidance and government of its members, and therefore the code of the American Association cannot be taken as the criterion for the fitness of any man to occupy a seat in the Congress.—*Pacific Medical and Surgical Journal.*

A BRITISH OPINION ON THE CONGRESS DISSENSIONS.—In the United States the organization of the profession is purely democratic; there is no common link like that of our Royal Colleges; no recognized headship like that of our President of the College of Physicians, or our President of the College of Surgeons. According to the very political theory on which the State is founded, every man has as good a right to lead as any other, if he can only get that right admitted by his fellows, and for that purpose one vote is as good as another. Distinction in science and reputation abroad supply no reason to a practitioner in Texas or Colorado why he should follow a Wendell Holmes or a Weir Mitchell, in preference to a Shoemaker or a Beverly Cole. Hence a revolt of the "rump" in the United States threatens to prove a much more disastrous affair than it would be in England, and hence we especially ask our readers' sympathy for those well and widely known American practitioners, whose title to lead their profession is admitted everywhere except in the ruder and remoter States of their own country.

We have had an opportunity of seeing several letters from distinguished American practitioners, and they all concur in expressing the most bitter grief and disappointment at the pass to which their profession has been brought. In these letters we have met with scarcely one word of anger against the dissidents who have rudely torn up the first programme of the Congress. Indeed, if we may say so without impertinence, the spirit in which the "leaders" of the American profession—for we will still venture to call them so—have met the recent crisis, is one which reflects the highest possible credit upon them. We hardly know which to praise most: their patient suspension of action until the Chicago meeting had confirmed the spirit of the proceedings at New Orleans, or their swift and unanimous protest and withdrawal from the Congress when definite action was at length called for. The only hope for the Congress—the only possibility of maintaining the dignity of the profession—lay in such firm and united action on their part, and the effect of this action has been so favorable that there already appears to be a much more hopeful feeling in the States as to the prospects of a peace with honor. The organizers of the revolt are meanwhile making frantic efforts to prevent further resignations, and are even said to contemplate throwing over Dr. Shoemaker, on the score of his supposed unpopularity. But we may take it that no concessions on their part will be accepted short of unconditional surrender and full recognition of the authority and acts of the original committee. These are the essential preliminaries to the holding of any International Congress at all, and every day increases the prospect of their general acceptance. The sooner they are accepted, the better. There will then be still two

years in which to bury the hatchet, two years in which to prepare a Congress which shall "whip creation." We had all made up our minds for that, and shall be disappointed with anything less.—*The London Medical Times.*

THE NEW COMMITTEE ON THE ORGANIZATION OF THE CONGRESS AND THE ORIGINAL COMMITTEE.—The following lists are published in compliance with a number of requests which have been received for information as to the respective membership of the two committees:

The New Committee.	*The Original Committee.*
J. W. S. Gouley, New York.	Austin Flint, New York.
A. H. Wilson, South Boston.	Henry I. Bowditch, Boston.
H. F. Campbell, Augusta, Ga.	H. F. Campbell, Augusta, Ga.
E. P. Cook, Mendota, Ill.	N. S. Davis, Chicago.
J. W. Dupree, Baton Rouge.	T. G. Richardson, New Orleans.
Beverly Cole, San Francisco.	Levi C. Lane, San Francisco.
J. V. Shoemaker, Philadelphia.	Alfred Stillé, Philadelphia.
John S. Billings, U. S. A.	John S. Billings, U. S. A.
John M. Browne, U. S. N.	John M. Browne, U. S. N.
Robert Battey, Rome, Ga.	Robert Battey, Rome, Ga.
J. W. Parsons, Portsmouth, N.H.	Clarence J. Blake, Boston.
S. C. Gordon, Portland, Me.	Henry P. Bowditch, Boston.
A. Y. P. Garnett, Washington.	Samuel C. Busey, Washington.
W. C. Wile, Sandy Hook, Conn.	James R. Chadwick, Boston.
L. P. Bush, Wilmington, Del.	J. M. Da Costa, Philadelphia.
R. D. Murray, Florida.	John C. Dalton, New York.
X. C. Scott, Cleveland, Ohio.	W. W. Dawson, Cincinnati.
Ellsworth Eliot, New York.	Francis Delafield, New York.
Geo. J. Engelmann, St. Louis.	Geo. J. Engelmann, St. Louis.
N. F. Essig, Plattsburg, Mo.	Wm. A. Hardaway, St. Louis.
I. Minis Hays, Philadelphia.	I. Minis Hays, Philadelphia.
D. W. Stormont, Topeka, Kan.	D. L. Huntington, U. S. A.
D. A. Linthicum, Helena, Ark.	A. Jacobi, New York.
A. R. Smart, Hudson, Mich.	Hosmer A. Johnson, Chicago.
Christopher Johnston, Baltimore.	Christopher Johnston, Baltimore.
R. A. Kinloch, Charleston, S.C.	R. A. Kinloch, Charleston, S. C.
J. M. Taylor, Corinth, Miss.	George M. Lefferts, New York.
R. C. Moore, Omaha, Neb.	Joseph Leidy, Philadelphia.
T. F. Wood, Wilmington, N.C.	S. Weir Mitchell, Philadelphia.
G. A. Ketchum, Mobile, Ala.	Henry D. Noyes, New York.
George F. French, Minneapolis.	Thaddeus A. Reamy, Cincinnati.
William Pierson, Orange, N. J.	Thos. F. Rochester, New York.
Lewis A. Sayre, New York.	Lewis A. Sayre, New York.
F. M. Beard, Vincennes, Ind.	Jonathan Taft, Cincinnati.
J. S. Lynch, Baltimore, Md.	W. Chew Van Bibber, Baltimore.
W. E. Anthony, Providence.	Horatio C. Wood, Philadelphia.
W. H. Wathen, Louisville.	David W. Yandell, Louisville.
F. L. Sim, Memphis, Tenn.	Chairman of Com. on Finance.
Wm. McLaughlin, Texas.	R. Palmer Howard, Montreal.
Surgeon-General U. S. A.	Surgeon-General U. S. A.
Surgeon-General U. S. N.	Surgeon-General U. S. N.
Surgeon-General U.S.M. H. S.	President of Am. Med. Assoc.
W. C. Dabney, Virginia.	
E. T. Upham, West Randolph, Vt.	
G. Baird, Wheeling.	
W. Watson, Dubuque.	
N. Senn, Milwaukee.	

PRECAUTIONS ON THE BORDER LINE AGAINST SMALLPOX.—Acting Secretary Fairchild has decided to comply with a request from the Governor of Michigan for the temporary appointment of sanitary inspectors to aid the State authorities in preventing the introduction of smallpox into Michigan from Canadian ports. These inspectors will be under the direction of the Marine Hospital Service, and will be stationed at the principal points of entry, such as Detroit, Port Huron, and at the crossing of the Canada Southern Railroad. Surgeon Sawtelle, of the Marine-Hospital Service, stationed at Detroit, has been instructed to arrange the necessary details and to act in conjunction with the local authorities.

SMALLPOX IN MONTREAL.—The following report concerning the progress of the epidemic in Montreal has been received from the National Board of Health:

Number of deaths from the disease in April,	6
" " " " May,	13
" " " " June,	46
" " first two weeks in August,	45
Total,	110

Number of houses bearing placards on the 19th instant, indicating the presence of smallpox, 106.

CHOLERA CONTAGION.—The *British Medical Journal* calls attention to the fact that the next few months will see several thousand packages of fruit exported every week from the southern and western coasts of Spain—notably nuts from Barcelona, lemons from Valencia, and grapes from Almeria. These last are packed in barrels, filled up with cork-dust; and the attention of the authorities is called to the importance of this fact, in view of the great epidemic of cholera in Spain. This is the more important, inasmuch as cholera contagion is believed to be frequently conveyed by food.

PROFESSOR LEUBE, of Erlangen, has received and accepted a call to succeed Professor Gerhard at the University of Würzburg.

DRY TREATMENT OF BURNS.—Dr. Géza Dulácska recommends that burns should be dressed with soda sprinkled on cotton-wool, bandaged to the wound. The pain may be severe for a short time, but it goes off in half an hour. In an hour the effect is quite perceptible, the reddened skin having regained its natural color, and the pain being gone. In three days the epidermis comes away, leaving a healthy corium below, without pain or suppuration.—*British Medical Journal*, August 5, 1885.

LIMITS OF EXPERT TESTIMONY.—*The Therapeutic Gazette*, for April 15, quotes a case from the last volume of the *New York Law Reports* which bears on the limits of expert testimony.

A child injured in a railway accident obtained a verdict for damages on the ground of possible future consequences of the injury. The Court of Appeals held that testimony on this point was improper, and reversed the judgment. The Court held the opinion that "consequences which are contingent, speculative or merely possible, are not proper to be considered in ascertaining the damages. It is not enough that the injuries

received may develop into more serious conditions than those which are visible at the time of the injury, nor even that they are likely to so develop. To entitle a plaintiff to recover present damages for apprehended future consequences, there must be such a degree of probability of their occurring, as amounts to a reasonable certainty that they will result from the original injury."

The testimony which was thought improper by the Court was given by Dr. E. C. Spitzka, in response to a hypothetical question. He said that the points of the question proved epilepsy, while the symptoms given by the patient himself left that matter open, leaving it either as a preliminary stage of epilepsy or meningitis or traumatic dementia, the witness could not decide which. He further said that the condition of the boy was very likely to be permanent, and in response to the question as to what he meant by "very likely," he said: "I mean that the boy will always have some remnants of this injury, some reminder of it, great or small, that is certain; how much he will retain I cannot tell, but I think it very likely he will retain some." Further discussion then occurring between the counsel as to the "very likely," Dr. Spitzka said that the boy was likely to retain the greater part of the symptoms, if he did not develop worse signs, and when asked what he meant by "worse signs," said: "A patient sustaining such injuries and presenting such premonitory signs may develop traumatic insanity, or meningitis, or progressive dementia, or epilepsy with its results." This testimony the Court held to be improper, as opening the door for all possible inferences on the part of the jury, and tending to probable extravagant estimates of harm, and a new trial was therefore granted. The case is of interest, as showing the carefulness with which evidence must be given by medical experts, when future consequences of an injury are under consideration.

DRUG ADULTERATIONS IN MASSACHUSETTS. — The Massachusetts State Board of Health recently sent out some fifty orders for drugs to various apothecaries in Boston and the neighboring cities and towns, for the purpose of seeking adulterations. Among the orders was one, sent to an apothecary near Boston, for certain amounts of deodorized tincture of opium, white wine, syrup, precipitated sulphur, and zinc, all marked "U. S. P." The inspector brought back the drugs supplied in five different bottles as furnished by the apothecary. The opium was found to be just one-tenth its proper pharmacopœial strength. The white wine was simply strong alcohol. The syrup was largely contaminated with dirt. The order for precipitated sulphur the druggist declared himself unable to fill, while for zinc, two salts of that metal are said to have been furnished for the purchaser to take his choice. A prosecution is looked for.—*Boston Med. and Surg. Journal*, August 20, 1885.

TESTIMONIAL TO PROFESSOR KOCH.—On Sunday, August 2d, Professor Koch was the recipient of a handsome testimonial from the physicians who attended the "cholera course" during the past winter. It consisted of a handsome ebony case richly ornamented with silver. The lid of the case is overlaid with a silver plate, containing in relief a bust of Professor Koch and the figure of the goddess Hygeia, together with further appropriate ornamentation.

PRIORITY IN THE REMOVAL OF THE UTERINE APPENDAGES FOR THE RELIEF OF UTERINE MYOMA.—MR. LAWSON TAIT, in a valuable paper on the modern treatment of uterine myoma, which appears in the *British Medical Journal* for August 15th, says: Personal questions concerning the priority of a discovery, or priority of the introduction of new proceedings, are never very satisfactory; and I have no very great interest in this part of the present question, which has been frequently discussed, other than that I am somewhat jealous for the honor of English surgery, and do not like to see the persistent inclination on the part of some of my metropolitan brethren to give the credit of the introduction of the plan, now universally adopted, of removing the uterine appendages for the relief of pain and hemorrhage, either to Germany or to the United States, when, as a matter of fact, it was done by myself, after mature deliberation and discussion, some considerable time before it was done either by Prof. Hegar or by Dr. Battey. The details have already been published in my book, and I need only briefly refer to the fact that the first discussion and final settlement of the proposal was made in October, 1871, the operation upon that patient being performed successfully on February 11, 1872. Dr. Hegar's case was performed on July 27, 1872, with a fatal result. My second case, which was also successful, was performed on August 1, 1872; and Dr. Battey's, which was also successful, was performed, for reflex troubles, on the 17th of the same month. The discussion of the principle of the operation was given in full in my Hastings Essay on "Diseases of the Ovaries," published by the British Medical Association in 1873. So long as these facts cannot be contradicted, the whole merit of the thing, however much or little it may be, belongs to British surgery.

THE GERMAN CONGRESS OF NATURALISTS AND PHYSICIANS will hold their fifty-eighth annual meeting at Strasburg, commencing on Thursday, September 17th, and will continue for one week. Fourteen of the twenty-four sections deal with branches of medical science.

UNIVERSITY OF VIENNA.—Drs. Hofmokl, Ultzmann, and Anton Wölfler have been appointed Extraordinory Professors of Surgery, and Dr. Mauthner. Extraordinary Professor of Medical Chemistry.

THE PRIZE AWARDED TO DR. BROWN-SÉQUARD.—It is the custom of the five Academies constituting the Institute of France to award a prize of 20,000 francs every two years. The prize is successively given to a scientist, a man of letters, a philosopher, an artist, and an archæologist. Every second year one of the five Academies selects a candidate, and, with the consent of the other bodies forming the Institute, awards him the prize. This year is was the turn of the Académie des Sciences to choose the candidate. The eleven sections of this scientific body may each put forward a candidate. On the present occasion, as we announced on the 4th inst., Professor Brown-Séquard was chosen by the Section of Medicine and Surgery; and M. de

Brazza, the African explorer, to whom France is indebted for much of the territory she possesses on the Congo, was the choice of the Section of Geography and Navigation. Five other sections also nominated a candidate. So that Physiology, Geography, Mathematics, Chemistry, Botany, Physics, and Astronomy were pitted against one another for the prize—a prize, be it remembered, that such men as M. Guizot and M. Thiers were proud to obtain. At the first ballot 20 votes were given to Dr. Brown-Séquard and 15 to M. de Brazza, and the remaining 20 went amongst the other five candidates. The second ballot secured 40 votes to Dr. Brown-Séquard, his opponent merely retaining his previous votes. The Académie des Sciences having, therefore, selected Dr. Brown-Séquard for the prize, the whole Institute of France had to accept or refuse what had been done by that scientific body. The Institute ratified the choice of the scientific academy by a majority of 67 votes, the numbers being 74 and 7. It must be a source of much gratification to Dr. Brown-Séquard to find that his efforts to extend our knowledge of physiology and pathology have been so ungrudgingly appreciated by the Académie des Sciences, as well as by the whole Institute of France.—*Lancet*, July 25, 1885.

DR. MERKEL, Professor of Anatomy in the University of Königsberg, has been appointed to succeed Professor Henle in the Chair of Anatomy at Göttingen. Dr. Merkel is a son-in-law of Professor Henle.

A ROYAL PRACTITIONER OF MEDICINE. — Prince Ludwig Ferdinand, of Bavaria, son-in-law of Queen Isabella of Spain, who obtained the degree of Doctor of Medicine at Munich last year, is, according to the *British Medical Journal*, now practising at Nymphenberg, Bavaria.

PRIZE FOR A NEW EAR TRUMPET.—BARON LEON VON LEUVAL, of Nice, founded a prize of 3000 francs, on the occasion of the Third Otological Congress, for the best instrument, constructed on the principle of the microphone, for assisting the faculty of hearing for deaf people, being one that can be conveniently carried about. Those competing for this prize are to send their instruments before December 31, 1887, to one of the members of the jury, namely, Prof. Dr. E. Hagenback-Bischoff, president of the jury, at Basle; Dr. Benni, at Warsaw; Prof. Dr. E. Burckhardt-Merlan, at Basle; Dr. Gellé, at Paris; or Prof. Dr. Adam Politzer, at Vienna. Only finished instruments will be accepted, which will be tested as to the perfection of their mechanical construction, and the correct application of physical laws, but chiefly as to their powers of improving the sense of hearing. The judgment of the jury will be made known at the Fourth International Otological Congress at Brussels, in September, 1888.—*British Medical Journal*, August 8, 1885.

PROFESSOR P. VOGT, who succeeded Prof. Hueter in the Chair of Surgery at Greifswald, died suddenly recently in the forty-first year of his age.

DEATH OF PROFESSOR FEHLING.—Professor Herman von Fehling died recently at the age of seventy-two. His name is familiar to every practitioner of medicine as the originator of Fehling's Solution. The adoption of his method to determine the presence of sugar in the urine was universal, and is still recognized as one of the best means for the purpose. He was a pupil of Profs. Liebig and Dumas. His contributions to the advance of chemical science are valuable. In 1831 he received the Professorship of Chemistry at Stuttgart, and filled the Chair up to the time of his death.

NOTES AND QUERIES.

To the Editor of THE MEDICAL NEWS.

SIR: Having received inquiries from a number of your readers concerning the apparatus for the inhalation of compressed air, alluded to in a recent article in your columns, permit me to make use of the same columns to say that the apparatus was made for me by Queen & Co., of this city; that the cylinders should be made of zinc; and that the diameter of the inner cylinder should be twelve inches.

Yours respectfully,
SOLOMON SOLIS-COHEN.

1826 WALLACE STREET, August 19, 1885.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 18, 1885, TO AUGUST 24, 1885.

STEPHENSON, WM., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for one month, to take effect Sept. 1, 1885.—*Fort Niobrara, Nebraska, S. O. 97, Department of the Platte.* August 20, 1885.

BLACK, C. S., *First Lieutenant and Assistant Surgeon.*—Upon return of Troops F and L, Third Cavalry, to Fort Davis, Texas., to rejoin his proper station at Fort Clark, Texas.—*S. O. 98, Department of Texas*, August 13, 1885.

MCCAW, W. D., *First Lieutenant and Assistant Surgeon.*—Having reported back at these headquarters from detached service, ordered to rejoin his proper station, Fort Lyon, Colorado.—*S. O. 122, Department of the Missouri*, August 17, 1885.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY DURING THE WEEK ENDING AUGUST 22, 1885.

M. C. DRENNAN, *Surgeon.*—To temporary duty at Annapolis, Md., as member of Board for Physical Examination of Candidates for Admission to U. S. Naval Academy.

WM. J. SIMON, *Surgeon.*—To temporary duty at Annapolis, Md., as member of Board for Physical Examination of Candidates for Admission to U. S. Naval Academy.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING AUGUST 22, 1885.

BAILHACHE, P. H., *Surgeon.*—Granted thirty days' leave of absence, August 15, 1885. Chairman of Board to examine candidates for appointment as Cadet in the Revenue Marine Service, August 19, 1885.

IRWIN, FAIRFAX, *Passed Assistant Surgeon.*—Recorder of Board, August 1, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*